

BUTANE-PROPANE

News

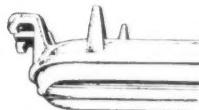
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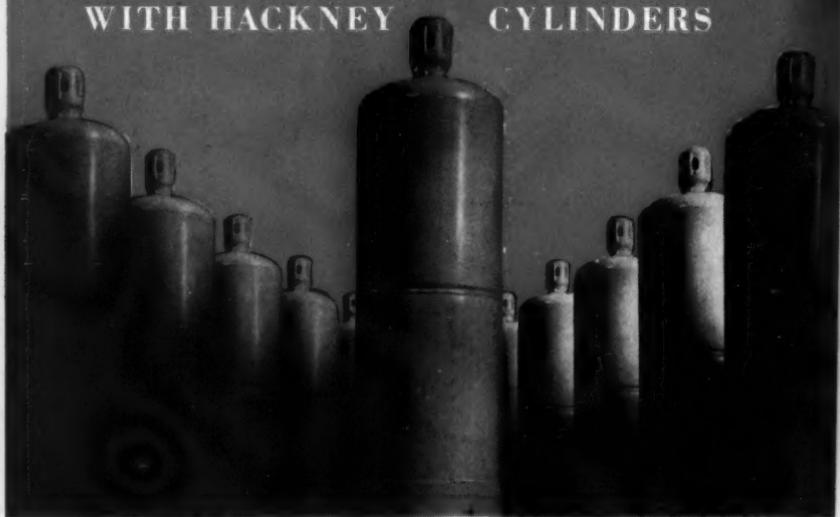


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NOVEMBER 1940

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NOVEMBER - 1940

BUTANE-PROPANE

News

Reg. U. S. Pat. Off.



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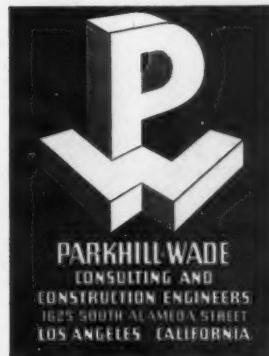
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APPLICATIONS



LETTERS

● **BUTANE-PROPANE News** welcomes communications from those identified with the liquefied petroleum gas industry, but readers will understand that this magazine does not necessarily concur in personal opinions so expressed.—Editor.

Gentlemen:

(1). I will appreciate any help you can give me in defining the difference between butane and propane gases.

(2). What is the B.t.u. content of butane? Of propane?

(3). Can an appliance equipped for butane use propane, and vice versa?

(4). What is the meaning of the term "therm"?

C. H.
Cincinnati, Ohio

(1 and 2). The principal differences between butane and propane gases lie in their different boiling points. Butane boils at 32° F. above zero and propane at 44° F. below zero. The difference in the heat content is indicated by the following tables

Propane Butane

B.t.u. per cu. ft. of vapor at 60° F. and 30 in. mercury-dry	2,519	3,274
B.t.u. per lb.	21,633	21,331
B.t.u. per gal.	91,686	103,465

(3). An appliance equipped to burn butane will burn propane satisfactorily, but the reverse is not always true. Spud adjustments are usually necessary.

(4). A therm is a term used as a measurement to express heat content and is equivalent of 100,000 B.t.u.'s.—Ed.

Gentlemen:

Our city has just passed an ordinance prohibiting butane and propane gas plants being installed within the city limits.

If you are against such acts as this, write an article in your magazine that shows them to be in error.

I know that should our natural gas systems fail, we would have to fall back on butane and propane gases. Personally, I think it is absurd that such an ordinance should be passed.

W. E. M.
Orange, Texas

Your experience with an unfavorable ordinance passed in your city parallels that of a good many other dealers in different parts of the country. An editorial in the September

issue of **BUTANE-PROPANE News**, entitled "When to Lock the Barn Door," discussed this very point and emphasized the fact that the best source of help for preventing unfavorable legislation is the Liquefied Petroleum Gas Association, of New York City.—Ed.

Gentlemen:

I have recently had occasion to go through an installation and service manual issued by the Payne Furnace and Supply Co., Inc., and noticed that they have reproduced, apparently in its entirety, an article entitled "The ABC of LPG" which is credited to the June, 1939, issue of **BUTANE-PROPANE News**.

This article impresses me as being a readily understandable and technically useful discussion of the properties of butane-propane mixtures, which should be of considerable value to all concerned with the utilization of these products. The data given in Figs. 2 and 3 on boiling points and inflammability of gases are particularly convenient, and I am wondering if you have a reprint of this article which you could send me for my reference file.

GUY CORFIELD

Research Engineer
Southern California Gas Company
Los Angeles, California

More than 50,000 reprints of this article have been distributed to members of the industry. Most assuredly you may have one.—Ed.

Gentlemen:

Do you know of anyone in the LPG industry who needs a sales manager with seven years of successful experience with butane utility company and two years wholesaling gas furnaces and heating equipment? Also an accounting expert. Prefer the West but will go any place.

JOHN A. BROWN

10857 Rochester Avenue
Los Angeles, California.

Gentlemen:

I am a butane plumber and electrician with good experience. Do you know of a firm, preferably in Southern California, who may have an opening for me? I am 24 years old, married, and have been employed for the past three years by the Caldwell Electric Co., Goodland, Kan.

W. A. BROWN

519 Park Avenue
Long Beach, California

USE OUR RESEARCH DEPARTMENT

The **BUTANE-PROPANE News** technical staff will gladly endeavor to answer all legitimate inquiries (except legal and financial) about the LPG industry which regular subscribers submit.—Editor.



IF YOU WANT TO SELL
A TROUBLE FREE L. P. G. SYSTEM
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LEADERSHIP is not achieved without first establishing customer confidence. During last year's severe winter, thousands of owners praised their Hydro-Gas Systems for unfailing performance. Every Hydro-Gas System produced meets such rigid engineering and safety specifications, that today there is no finer or more reliable system manufactured. Hydro-Gas Systems with their exclusively patented Vaporizer and Re-Vaporizer and other features are so dependable under every condition that once installed you are relieved of excessive servicing. As a dealer you can profit greatly from Hydro-Gas System's leadership, national acceptance, and trouble-free operation.

Hydro-Gas System's unequalled record of performance in all parts of the country under all conditions makes it worthwhile for responsible dealers to investigate. Your correspondence is invited.



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search, Philgas
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Our GUEST EDITOR for November

Your Industry and Mine

WE CAN all be proud of our association with an industry which fills a basic need in life. Man must eat—come what may—prosperity or depression—and to eat, man must cook. Beyond gas mains, liquefied petroleum gas provides better cooking, easier cooking, at lowest overall cost.

We can all be proud to be part of an industry which enables American families to lead happier, well-rounded and more self-sufficient lives. With the modern conveniences of gas cooking, water heating and refrigeration available in suburban and rural areas, more and more families are moving from congested cities to healthful country surroundings. Children can grow up normally, breathing smoke-free air, away from the noise and bustle of hurried city existence, and man can dig in the soil to achieve a greater degree of economic self-sufficiency—without sacrificing the conveniences of city life.

We can all be proud to be in an industry which is furnishing a highly refined fuel for a myriad of processing operations in hundreds of factories producing a wide variety of large and small articles. Modern industrial heating problems necessitate numerous special fuel and heat applications, many of which are solved with the utilization of liquefied gases. Since this fuel offers a purity and constancy not available in any other form, as well as economic advantages, its growth has been unprecedented.

We can all be proud of the fine record which this young industry has made. The future holds even greater promise. The industry can ensure this great future by proper attention to economics, by aggressive merchandising and by careful observance of established safety procedures.

G. G. Campbell

FOR EVERY LPG NEED

in ATLANTIC STATES GAS metered service

When Atlantic States Gas Company initiated metered LPG service as an equivalent of city gas service, an essential task was the education of customers to this type of gas distribution. In fostering their confidence, the accuracy of the AMERICAN Liquefied Petroleum Gas Meters utilized has played no small part. Cost of meter repairs is reported negligible.

• NOTE: American Meter Company pioneered in the special treatment of diaphragms and other construction materials, necessary to efficiency in LPG metering. A complete line of meters, each adapted to the exact requirements . . . and a country-wide engineering service.

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MAINLY BEYOND THE MAINS

SAFETY IS THE KEY WORD

Safety in the LPG industry, in fact in any industry, rests on two fundamental rules. The first one, and the one easiest to understand, is that it is

a lot pleasanter and less painful to go through life with the use of all fingers on both hands, with the unimpaired sight of both eyes, and without a large and livid patch of scar tissue replacing the normal, bearded hide that customarily covers the human face.

The second premise is that we have neither the moral nor the legal right to maim, mutilate or exterminate fellow citizens whether they be our customers, co-workers or innocent bystanders.

Luckily, horse sense is replacing heroics even in the minds of the devil-may-care boys, as far as the first rule is concerned; and the plant hand who "isn't afraid to take a chance" generally has to demonstrate his recklessness standing in line at the "No Help Wanted" window.

The law has borne down heavily on one and sundry when they have been found guilty of violating rule two; and it has been demonstrated that there is nothing like a \$20,000 damage suit to awaken the conscience of management to what constitutes its obligation in the matter of safety.

If only the foolhardy employe or the headstrong employer suffered when safety violations came to violent ends we could probably view it with some calm, on the general theory that the fool killer can only call on each individual once. But unfortunately when accidents occur the damage spreads much further than the immediate person or pocketbook of the casualty concerned.

Have you observed that every law that is proposed to regulate LPG has as its pious concern the protection of life and limb or of

person and property from the hypothetical dangers that are supposed to be inherent in handling butane or propane? Let even the slightest mishap occur that can be remotely traced to bottled gas, and "there oughta be a law" sentiment is immediately marshalled behind proposed restrictive legislation.

The professional bleeding hearts on borough councils and in state legislative halls immediately become acutely aware of the possibilities of a tie-up between new safety laws and new tax revenues. And the competition swarms into the cloakrooms and lobbies with additional suggestions for putting teeth into legislation that they fondly hope will end the infernal nuisance of having to sell against a superior fuel.

The responsibility for safety rests on the shoulders of every man and woman employed in the manufacture, sale or distribution of butane and propane gases. And it is a responsibility that involves not only their personal and their corporate welfare, but one that immediately and intimately affects the lives and livelihood of the entire LPG industry.

LP GAS

Frank Fetherston suggested it—we like it; and so far as we are concerned it will be "LP Gas."

"LPG" we have used, but maybe it is too chunky for the designation of a major industry.

"Liquefied Petroleum Gas" has dignity; but it is too bulky to slip into the speech pattern of a people prone to abbreviate. "Tank gas" is only half the story; and "bottled gas" might mean several things.

The various names that have been applied to our industry by the electrical competition couldn't be used in a family journal that must travel through the mails. So by us it's "LP Gas," and now that the infant has a new name (which we hope everybody will like), we pledge anew our determination that it shall be ever and increasingly a name to be reckoned with.

These are the men on the permanent ranger force in the National Park Service upon whom rests the responsibility of patrolling Mount Rainier National Park.



Two Miles Up Mount Rainier

Bottled Gas Is the Ranger's Friend

NEARLY two miles high, on the barren, windswept flanks of Mount Rainier, which rises over 14,000 feet to make it the tallest peak in the far northwest, bottled gas performs three important functions for the men in Uncle Sam's National Park Service who are stationed there during the open season.

At times of electrical disturbances, states O. A. Tomlinson, superintendent of Mount Rainier National Park, small, blue flames of static electricity are visible dancing along the pipes and wires, accompanied by a crackling or frying sound, while the "lookout" sits on an insulated chair, his feet on an insulated stool, and prays that the lightning protection system, to which the installation is grounded, will perform its vital duties.

Again — even in mid-Summer — two feet of snow may fall in a day's time, accompanied by a wild blizzard traveling on the wings of a high gale, but still Anvil Rock Lookout, as the station is called, holds its footing, and those within are kept warm and comfortable by the glowing flames in the LPG heater.

At mealtime propane cooks the food and after dark it furnishes a light for reading that is the equal of any electric one ever used!

Few are the places where liquefied petroleum gas serves more efficiently or importantly than at Anvil Rock Lookout. A further description of the station and what this fuel has come to mean to those who stay there is well told by Superintendent Tomlinson from Longmire, Wash., headquarters:



Clinging to Anvil Rock, two-thirds up towering Mount Rainier, this lookout station is the summer home of the men who help guard the great forests in Rainier National Park. Here propane is the only fuel used. The lookout is the highest in the State of Washington. Behind the cupola is Gibraltar Rock, near the summit.

"The Anvil Rock Lookout is known in the Service as a 'D6' type cupola house. It was built in 1916 and is the oldest in the Park. It is anchored by cables to Anvil Rock, an outcropping of rock entirely surrounded by snowfields and glaciers. Located on the southeast slope of Mount Rainier at an elevation of 9584 feet, this station is the highest occupied position in the northwest. On the north side of the lookout there is a sheer drop of several hundred feet to the Cowlitz glacier. The Gibraltar route to the summit is past this station.

"The temperature drops below freezing every night of the year, and rain has been recorded here only twice, precipitation normally being in the form of snow. A two-foot snowfall in midsummer is not uncommon. Water is obtained by melting snow on the gas stove burner. Strong winds blow most of the time, even in summer. There is no trail built above the 7000-foot elevation, the route passing over snowfields, snow-covered glaciers, and rock outcroppings.

"From this point the lookout can see for about 40 miles from northeast to southwest. On clear days Mount Adams and Mount St. Helens are visible, and on occasions Mount Hood. Sometimes Mount Jefferson in Oregon is also visible. Telephone and shortwave radio communication systems connect the station with Park headquarters at Longmire. In 1939 about 70 fires, started by lightning, were observed from this station within a period of one week. The fire-finding instrument is in the cupola.

"Fuel for lighting, heating and

cooking at Anvil Rock is 'Flamo' gas. One lighting fixture is suspended from the ceiling of the main room which is 12 feet square. Cooking is done on a two-burner plate, or stove, and a Flamo heater provides heat for the station. Gas tanks are installed in a shelter outside the building. The station has been struck by lightning two or three times without damage.

"Kerosene was formerly used as fuel at the station. This was later replaced by Flamo, being easier to transport, more convenient to operate, and presenting a much smaller storage problem than cased kerosene, which was consumed at the rate of 40 gallons for a season of slightly in excess of two months.

"Approximately one and one-half



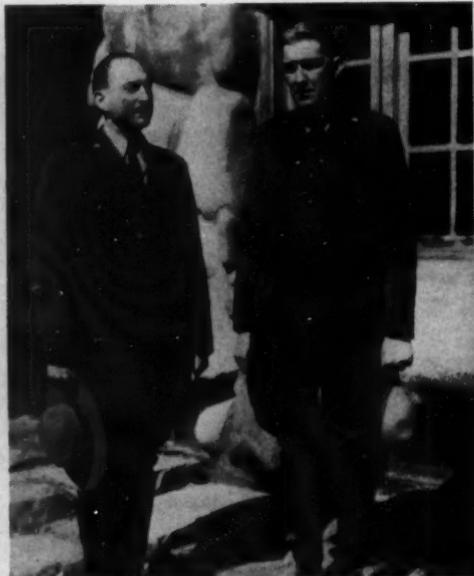
This propane-burning stove is a luxury to the lone lookout who watches for forest fires from his station at a point two-thirds up the "mountain that was God," the Indian appellation for Mount Rainier. Besides for cooking, the station uses propane for heating and lighting.

tanks of the 41-pound size of Flamo cylinders are required per month. Wood is not used because of high transportation costs, and because the chimney of a wood stove, with its column of heated air, is considered a lightning hazard in such locations. The cost of Flamo gas is a little more than for kerosene, but it is thought that other advantages outweigh the difference in cost. It was also thought that the gas heater and stove gave off a smaller amount of objectionable fumes than did the kerosene burners. At first we had some trouble with the mercury coming out of the pressure regulating valve, due presumably to the elevation and low temperatures, but this trouble was eliminated by a newer type valve."

During a ranger patrol the early part of last May, the lookout building and the shelter housing for the gas tanks was found buried beneath seven feet of ice and snow. At that time of year sub-Arctic weather still prevails and this, with strong winds, makes it a hazardous task to remove shutters from doors and windows and open the station. This is often even true as late as July 1, the approximate time when the fire season begins. This year the horse packtrain could not get in with supplies and propane cylinders until mid-July.

Two months later the winter storms again set in and Anvil Rock Lookout is closed for another long winter of deep snows.

O. A. Tomlinson, superintendent of Mount Rainier National Park, and Chief Ranger Oscar Sedergren, at Longmire, and Wallace Meade, 64, the "man of the mountain," who returned to the wind-blown fire lookout station 14 consecutive summers.



Proven Ways to Prevent Serious Fires

By S. D. CLITHERO

Fire Prevention and Control Department,
General Petroleum Corporation of California

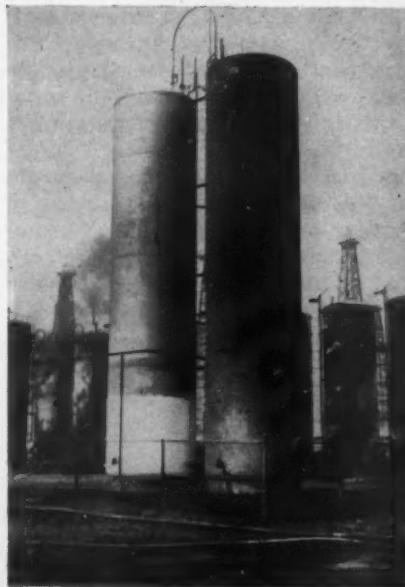
"It doesn't make sense." So remarked a perplexed fireman as he leaned against a vertical butane tank shell which felt slightly warm, and thoughtfully dug his fingernail into frost that covered the lower half of a similar adjacent tank. Until a few minutes before, these two tanks were involved in a nasty fire at an absorption plant. While such paradoxical behavior is readily understandable by the technician, for those less familiar let's consider the two characteristics of LPG which most directly affect two principal groups of fire prevention and control problems. These groups are explained somewhat as follows:

Volatility as related to (a) protecting containers; (b) control of escaping vapors.

Physically, normal butane is a combustible hydrocarbon with flash point of -76°F . and boiling point of about 32°F . at atmospheric pressure. It is sufficiently volatile to be vapor at normal atmospheric temperatures and pressure and for practical reasons is compressed to the liquid state for storage and convenience.

Being a hydrocarbon derivative, instead of T.N.T., or dynamite, with which it is erroneously compared, LPG has definite combustible limits

and before it can burn must be in vapor form and mixed with 11 to 60 volumes of air. Therefore, it can be extinguished by smothering to exclude air, non-combustible gases such as steam, carbon-dioxide,



Two butane storage tanks that were surrounded by fire. The tanks were nearly full before fire. Frost resulted from rapid vaporization due to vapor leak from piping of tank on left. Vapor loss through relief valves on other tank was comparatively small; consequently, no frost formed. The prevention of fires like this is the purpose of the accompanying article on fire control.

and carbon-tetrachloride generally being effective when properly applied in sufficient amounts.

Because of the volatility and low boiling point of LPG it seldom can be successfully blanketed by foam, or cooled by water to stop vaporization, although jet fires can sometimes be knocked out by high velocity streams of foam or water. Unless used in a manner to generate steam, water, as such, will not extinguish burning LPG. Nevertheless, in proper form it is the most essential of all agents for the control (not extinguishment) of serious fires involving or exposing LPG. And *control* rather than extinguishment will frequently be the most practical method of attacking a fire problem.

Since an impractical temperature of less than 33°F. is required to liquefy butane, it is normally compressed to liquid and stored in rugged metal cylinders. These are

commonly designed for about 106 lbs., or greater, working pressure and safely withstand much higher pressure, so long as the metal is not weakened by shock or excessive heat. However, the application of heat to the containers has two important effects: First, it increases the volatility of the liquid; and second, it may seriously weaken the shell metal. Thus we immediately encounter the two most important fire control problems—adequate venting and effective cooling of containers. Safety Orders of the California State Industrial Accident Commission regulate venting, but adequate cooling may become your problem.

Since it is under pressure above atmospheric, LPG will escape through any opening in piping or containers. As the vapor is twice as heavy as air, and transparent even when in combustible mixtures, it may travel unobserved for a con-



Portion of water spray installation in action at large Southern Counties Gas Co. butane standby plant, Wilmington, Calif. Only central section of spray nozzles are shown, operating at normal low water pressure. Line of nozzles protects the ends of tanks from blast of gas that might originate in oil and vapor piping, above which the sprays are located.

siderable distance. Depending on the rate of leakage with relation to diffusion, the escape of unburned vapors may be extremely dangerous. A small leak may safely diffuse within a few feet, when in the open; but large leaks have ignited from sources 300 to 400 feet distant. Thus, control of escaping vapor becomes the next important problem.

The low boiling point of LPG not only greatly affects typical conditions of the fire, but also the conventional effect of foam and water on oil fires and, *under some conditions*, may necessitate a complete reversal of practices that would otherwise be very effective. On the first score, the low liquefying temperature almost, but not quite, precludes encountering unconfined liquid LPG in large quantities. Occasionally, however, a failure may allow escape at sufficient rate that some of the LPG will be chilled by rapid vaporization, causing liquid

to form. Also, rapid venting of vapors may so chill the LPG within a container that vaporization practically stops. Then, since both water and foam will always be at a temperature far above the critical temperature of LPG, applying either of them in any form, onto either a pool of liquid or chilled cylinder, is equivalent to applying heat. Our problem then becomes one of When, Where and How *not* to apply foam or water. A water screen between a fire and a cylinder may be more effective than applying water on the cylinder itself.

While actual fires may apparently knock forecasts into a cocked hat, typical behavior can generally be anticipated.

(a) Radiated heat will increase vaporization and frequently cause relief valves to pop off. If sufficient, it may melt fusible plugs and direct flame will nearly always do so.

(b) Vapor leaks cause chilling



Butane storage tanks shown in background, at Wilmington plant, are enveloped in water spray for cooling of tanks and checking fire. This type of control protects against severe damage from serious exposing fire.

of the liquid and may greatly retard the rate of evaporation.

(c) If leaks are small, liquid will seldom accumulate.

(d) Leaks from pipes conducting liquid may start as vapor and become liquid as the pipe chills, largely depending on the rate. If the opening at the leaks approaches the pipe area, liquid may be expected.

(e) A jet or blast of fire against a container will cause trouble. If directed below the liquid level, vaporization is greatly accelerated; if above, the metal may be weakened to failure at pressures way below relief valve settings.

(f) So long as any liquid remains, the mixture within an LPG container will be above combustible limits and an ignition explosion is impossible, although the vessel may fail from internal pressure, just as a boiler bursts. However, if an LPG cylinder is completely dry, *look out*, it may explode if involved in fire.

(g) A cylinder containing some liquid and with shell highly heated may explode regardless of vents, if position of the cylinder changes so that considerable liquid is flashed to vapor by contact with highly heated metal.

(h) Properly engineered, LPG installations will withstand a terrific fire without consequences being necessarily disastrous.

(i) Practically to the same extent as in the case of more common combustibles, prompt and intelligent use of proper fire equipment will prevent most LPG fires becoming serious.

Obviously, there can be only two steps to prevent a fire once an LPG leak occurs: Eliminate ignition

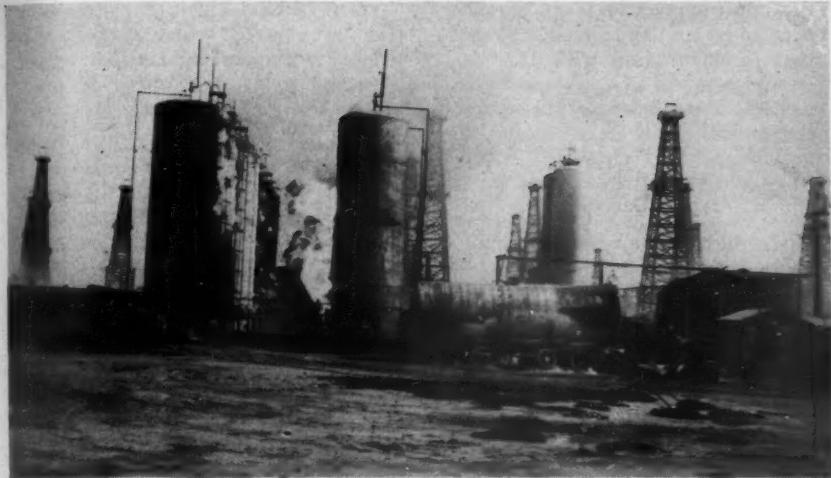
sources, and disperse or dilute the vapors below combustible limits. The latter can sometimes be done by ventilation or by the use of water sprays, steam, or CO₂.

What To Do Last

Once ignition occurs, something must be done, and generally the *last* thing should be to extinguish burning LPG, unless the leak can be stopped quickly thereafter. If reignition can occur, a vapor accumulation is likely to be far more dangerous than a fire burning under control. Consequently, means to protect exposures and to control intensity of the LPG fire itself are, I believe, primary essentials.

Thus far, nothing has been found superior to water spray for this purpose. Combination type spray nozzles that also provide a straight stream, for reach and hitting power, are most useful because they can be used not only to knock out fires under pressure but also to provide water screen protection necessary to make shutoff valves accessible. A number of makes of such nozzles are available, nearly all of them having advantageous features. All those of large spray capacity seem to require pressures of around 150 lbs., but some with smaller capacity are amazingly effective at 75 lbs. or more, and are suitable for use on 1 in. and 1½ in. hose. One of the handiest of this type is provided on a 5-ft. length of pipe that greatly facilitates working on spots ordinarily hard to reach.

Hand extinguishers and wheeled units of the carbon-dioxide and pressure-ejected powder type are useful on small fires. Carbon-tetra-



Fire in absorption plant showing storage tanks. Flame shown is coming from lines that was ignited during filling operations. Truck in foreground was being filled. Truck tank was cooled enough by vaporization that part of pain is still intact; although truck frame was badly damaged. Only one of the thirteen holders involved was distorted enough to allow leaks from seams. After testing the truck tank it was given a coat of paint and put back in operation. In spite of this serious fire, damage to properly designed equipment was comparatively minor, being confined for the most part to gage glass and brass pipe fittings.

chloride usefulness appears limited except in large units; as does foam, except under special conditions.

Suitable fire equipment depends on two factors: Size of risk, and whether a fire in liquid or vapor is to be anticipated. It is economically impractical to provide for protection against every contingency at every installation. My personal choice would be as follows:

Small Consumers Fuel Units: At most, a small CO₂ extinguisher.

Larger Industrial Fueling Units: (Fixed installations, such as stand-by fuel systems for factories and plants.) At least one large hand type CO₂ or powder extinguisher and one combination water spray and stream nozzle on 1½-in. hose.

Bulk Delivery Tank Trucks or Trailers: (Carried on the unit.) One large hand extinguisher (CO₂ or similar) per rig.

Butane Service Stations: At least one large hand extinguisher per transfer unit, preferably a minimum of two extinguishers. Wherever water pressures are suitable, a combination water spray and straight stream nozzle on 1-in. or larger hose. Major water protection considered available from municipal fire departments in this circumstance.

Major Manufacturing and Storage Facilities: (Gas plants and municipal stand-by fuel system storage.) A properly designed, permanent water spray installation is usually essential and should

be supplemented by large portable equipment and hose nozzle protection commensurate with the risk. Design services of a competent fire protection engineer are highly recommended. This is a specialist's problem.

Typical Cases Cited

Fire fighting procedure can be illustrated by a few examples:

Case 1: Small leak burning at leaking fitting or valve: Knock it out with rag (preferably wet), dirt, small extinguisher, or garden hose stream. This is on the premise that reignition would not result in a serious flash or damage.

Case 2: Fire at vent or relief valve, ignited by still burning exposure fire: Let burn till other fire is out. Use water to cool shell of container and fusible plug. Extinguish last by knocking out with straight stream or an extinguisher if cooling the shell does not suffice.

Case 3: Burning vapor at major break (not directed at container): Use water spray to reduce vapor fire intensity. The safest procedure would usually be to allow it to burn until shut off or exhausted. Put water screen between container and flame. Usually best to avoid direct application of water to shell.

Case 4: Vapor or liquid fire enveloping or playing against container: Provide maximum water application on shell, concentrating on vapor space or where fire jet hits shell. Use spray as practical, to reduce intensity of fire.

Case 5: Fire exposing LPG unit, but none at LPG unit, itself: Cool shells with water (preferably

spray). Direct straight stream or spray at relief valve or vent outlets, to disperse and direct vented vapors away from fire. If practical, vent *vapor* at safe location.

Caution: Too rapid chilling with water may cause a hot container to burst. First application of water should be in reasonable quantities and from a safe distance.

In conclusion: Certainly LPG is dangerous; but so are electricity and gasoline and many other common products when improperly handled. Senseless fear will always mitigate against intelligent handling of any emergency, so give the product and its characteristics proper consideration. And, above all, have every LPG installation designed, installed and maintained by someone who *knows* the requirements of the fuel.



South Texas Dealers Form New LPG Association

A new liquefied petroleum gas association, known as the Gulf Coast Butane Dealers Association, was recently formed by a number of authorized butane dealers in South Texas. S. J. Eubank, owner of the Ideal Butane Gas Co., 4717 Washington, Houston, Texas, was elected president.

A news report states that among the objectives of the association will be an endeavor to protect the public against fraudulent installation and distribution of fuel and to ensure customers of a high class of merchandise and gas.

Mr. Eubank's company, the Ideal Butane Gas Co., has plants in Caldwell, Liberty, and Beaumont, Texas, and carries a full line of appliances.

Package Selling Short-Cuts the Route to Big Business

A BIG business of selling butane gas systems and the needed gas appliances has been developed by the Mississippi Butane Gas Systems, Inc., of Jackson, Miss., and the McKay Plumbing Co. of that city, with which it is affiliated. The head of both companies is Peyton McKay, who is also president of the Mississippi Association of Master Plumbers.

Mr. McKay was one of the first contractor-dealers in the South to realize the importance of selling gas appliances beyond the gas mains. This involved learning something about the butane gas business and that is exactly what he

By GEORGE H. WATSON

did. He wisely saw that the sale of butane gas and appliances equipped with butane burners went hand-in-hand. Up to that time, concerns in the butane business were mostly interested in furnishing outlets for the gas, and plumbers, or other dealers for that matter, showed little interest in selling appliances to butane users.

So Mr. McKay helped to organize the butane company which is really a subsidiary of the plumbing company. The butane company supplies the gas systems and main-



View of McKay Plumbing showroom. Note miniature butane tank on sales floor.

tains a gas delivery service, and the plumbing company attends to installations and appliance sales. About 40 systems per month are being sold and branch offices have been opened in Pascagoula and Mobile, Ala. Gas appliances are sold by carloads.

Mr. McKay uses what he calls a "package" system of selling. In other words, he doesn't just sell the gas tank, alone, but hooks it up with the appliances to make it ef-



Peyton McKay in action at his desk and Miss Maurine Ferguson ready to record the phone message.

fective; in fact, more often than not he starts with the appliances themselves, showing what an improvement they are over wood or coal cooking and heating, and the advantages of gas refrigeration.

As an illustration, a sale made by Mr. McKay the day the writer called on him was for \$415 and was itemized in the billing as follows: \$150 for the butane system; \$30 for outlets; \$100 for a range; \$70 for water heater and \$65 for four heaters. This installation ran a little above the average which is

about \$300. From this it can be understood that the firm is selling butane systems not just for themselves alone, but so that the appliances may also be sold, a double purpose and double profit, if you please. Of course, the company gets the continued sale of gas, as well.

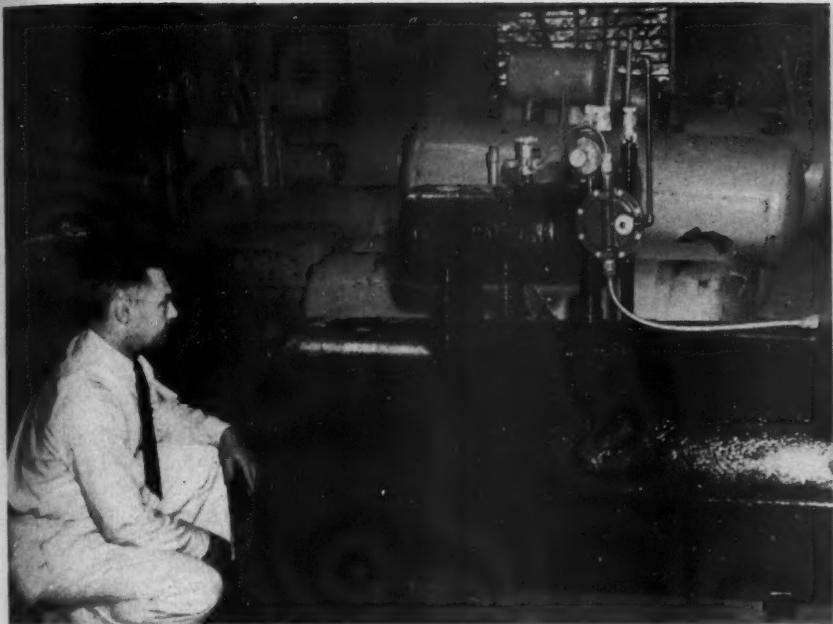
"Butane gas systems are still in their introductory stage in this territory and hence a lot of pioneering has to be done," said Mr. McKay. "We have done much newspaper and radio advertising in our territory; also, used testimonials from satisfied users, which are quite helpful. But after all, there is no substitute for cold canvassing. Hence, our salesmen just go up and down the highways calling on home owners along the way.

"One beauty about selling the man beyond the gas mains is that he has nothing in the way of gas appliances and needs everything.

Mr. McKay tells the instance of one old settler on whom he called. This man lived in an ante-bellum home which had some cannon marks from the Civil War, and he revered these marks very much. Mr. McKay didn't have much luck on his first call, but sensing possibilities, he went back a week later.

Just as luck would have it he saw the housewife carrying in stove-wood. That gave him the cue. He shamed the old man for letting his wife attend to such menial duties when at small expense for a butane installation and then the mere flip of a valve she could have the cleanliness and convenience of gas heat with no more wood to carry, no more fires to build or smoky pans.

"Somehow or other this struck



Peyton McKay, head of Mississippi Butane Gas Systems, Inc., and McKay Plumbing Co., Jackson, Miss., examining one of his butane gas tanks. Note the small "stripper tank" on top which is his own invention.

the bewhiskered man's fancy," said Mr. McKay. "His first question was 'How Much Does It Cost?' I did not tell him right then, but dwelt some more on the convenience, comfort, freedom from toil, healthfulness and pride of having an all-gas kitchen. As a result I sold him a butane system, a range, a refrigerator, a water heater and installed two bathrooms and complete plumbing for his home. Space heaters for house heating were also installed. The house was even remodeled; the old cannon marks erased.

"This man is apparently the happiest of any time in his life, just learning, as it were, how to live,

and is one of the biggest boosters for butane gas."

The customer has referred at least a half-dozen others to Mr. McKay and has personally gone with him to see two of them. But in the beginning he seemed like the poorest kind of prospect. This presented a good example of how butane gas is waking up country people to the better way of living.

The McKay Co. has plumbers specially trained to install systems.

In order to get good salesmen, Mr. McKay said it was necessary to pay them well and to give them close supervision. His brother, G. H. McKay, is associated with him.

"Don'ts" and "Do's" That Make a Business Pay

THE Omaha Blau-Gas Co. dates its beginning back to 1912 when the industry was in its infancy and public acceptance of the fuel had to be won in each individual sale. It was the very vanguard of the pioneering years.

It was on Dec. 5, 1928 that L. R. Forsyth took charge of the company and he has been operating it ever since. The manufacture of Blau-Gas had been discontinued during the previous February and since then propane has been handled under the same trade name. No year since has failed to show a gain in business volume.

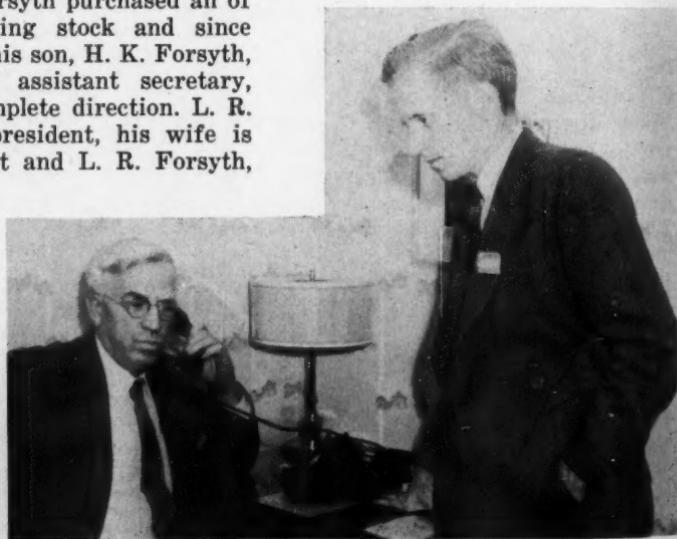
On the day after Christmas, 1938, Mr. Forsyth purchased all of the outstanding stock and since then he and his son, H. K. Forsyth, who is also assistant secretary, have had complete direction. L. R. Forsyth is president, his wife is vice president and L. R. Forsyth,

Jr., is secretary. Most of the present employees have been trained by President Forsyth.

A new honor was bestowed upon L. R. Forsyth on Oct. 1, when he was elected vice president of the Midwest Section of the Liquefied Petroleum Gas Association at its annual meeting in Omaha. Omaha Blau-Gas was the host company for that occasion.

The Omaha Blau-Gas Co. operates a retail business for a radius of 25 miles around Omaha, which carries it into western Iowa, and has a dealer set-up that covers the eastern half of Nebraska, the west-

L. R. Forsyth,
president
Omaha
Blau - Gas
with H. K.
Forsyth,
his son.





Filling plant of Omaha Blau-Gas Co., with several hundred cylinders on platform and tank car on tracks. L. R. Forsyth stands in center of open doorway.

ern half of Iowa, a portion of South Dakota and some districts of Missouri, totaling 300 dealer outlets—all well spread over this large territory.

All re-fills are made from the Omaha filling plant and delivery service is made from there to dealers on a scheduled 14-day basis. Equipments and fittings are always carried by delivery trucks to care for dealer emergencies. A truck starts out with 60 filled cylinders and, as deliveries are made, empties are picked up.

It has been found that 95% of the dealers cooperate satisfactorily to this regular schedule, and thus an efficient system has been built that benefits company, dealers and consumers.

Mr. Forsyth has developed a group of operating policies during these nearly 12 years in the industry which have directly contributed to his degree of present success, and which he thinks are good for everybody to follow. These well

may be recorded in his own language:

"Don't try to carry on another business and operate a propane gas bulk station.

"Don't establish stores and carry appliances other than those used for bottled gas; leave the city gas stoves and appliances alone, as you receive nothing but complaints from this source.

"Don't steal the other fellow's customer. It is far cheaper to find one of your own, and remember that every customer you steal will eventually be taken away from you, and your time and effort has been wasted.

"Don't handle anything that doesn't pay. If you can't make a legitimate profit, leave the article alone. Make a profit on your appliances and equipment.

"Don't cut the price of gas to get one customer as it will cause you to cut the price on every consumer you have.

"Don't think your competitor is a crook. He is just as good as you.

"Don't employ a salesman that knocks your competitor's appliances and gas.

"Don't cut your price by making too big an allowance on trade-ins. Remember you will have to find a customer for the trade-in and you have two sales to make in order to complete one.

"Help your competitor when in an emergency. You may need his help some day. If you happen to be in a competitor's office when he is selling, stay out of the conversation if you can't speak a good word for him. If your competitor needs a little service help, do it for him as well as you would do it for yourself.

"It has been the policy of our company to own and maintain its own equipment, and a proper sales talk to the consumer will convince them that it is a better plan to have service than to own their own equipments.

"The system of taking deposits

on cylinders is particularly bad for the reason that if your dealer is big enough he will eventually be your competitor.

"Visit and help your own dealers; leave your competitor's dealers alone—he will take care of them.

"Remember that when you make a sale, do not mis-state the facts to your consumer, because you are just starting a relationship with him that must be established on a basis of truth and not on misrepresentation. There are customers now buying gas from us who have been on the company books for 28 years.

"Always sell your customer the best merchandise that he will buy. Good merchandise will cause you less trouble than cheap merchandise. Service is expensive; buy appliances that need little servicing.

"We have found that the cheapest way to sell bottled gas is to give a three day demonstration;



Otto Christensen
and Reuben Swanson
charging cylinder with new 288
filling manifold



Gilbert Bachman,
Harry Christensen,
Sam Jacobsen,
Jack Rademan,
Reuben Swanson,
Otto Christensen.

however, have it distinctly understood that the appliance will be taken out of the home on the fourth day. You will close more sales if you will do this, and from our experience we find that 80% of the demonstrations that last over three days are not closed. Let the salesman call when the demon-

stration is in, and one-third of the sales are closed before he leaves.

"Take time to see your dealers personally. They like to see what kind of a car you ride in. Encourage them to sell but don't talk too much business on these trips. They like to know and see the man that says 'yes' and 'no'."



Standing: Edwin J.
Staroski, Marjorie
Houch, W. K.
Guyer, Jr., Darwin
Lantz. Seated: Mrs.
V. E. Armstrong.

Safety Education Will Take Accidents Off the Front Page

THE most serious accidents which occur in the bottled gas industry almost invariably command the headlines. Aside from the tragic loss of life and limb, this is unfortunate because each piece of such publicity negates the effectiveness of much expensive goodwill advertising. It is certainly to the interest of the bottled gas industry to do everything possible to promote education in the safe methods of handling propane and butane and also in the dangers of ignorance and carelessness.

The three E's of safety are just as important to observe in the bottled gas industry as they are in any other. Engineering, Education, and Enforcement must be applied to secure worthwhile results.

Engineering is largely a matter for the laboratory. Propane and butane are petroleum derivatives. Both are inflammable and explosive, though fortunately neither is particularly dangerous as a toxic substance. The work of setting up safety standards for packing, shipping and handling bottled gases has been well started. The Edu-



JOS. E. NICHOLS

By JOSEPH E. NICHOLS

Industrial Division

National Conservation Bureau

cation and Enforcement parts of the job, however, will always be with us and must be constantly carried on to meet new and changing conditions and to safeguard both old and new personnel.

Here are a few of the things that should be on your "must" list: Know how to handle and use these gases. Know how to control the hazards which their use creates. Pass this knowledge on to your customers and your employees and help them to use it properly.

The two most obvious hazards are fire and explosion. Nevertheless, a far greater frequency of accidents occurs from the simple operation of handling the cylinders. The greatest number of injuries occur to feet and toes from falling or rolling cylinders. Safety-toe shoes will do much to reduce lost time and eliminate many painful injuries in the everyday work of handling cylinders. Even the most careful and experienced workman will occasionally drop a cylinder and these can all too easily crush the feet or toes.

Check the condition of the floor in your cylinder storage warehouse. A smooth, level and even surface is necessary to the safe handling of cylinders if they are rolled on

end by hand, or if they are handled on factory trucks. Look at your loading dock. Is it smooth and level? Are there any nail or bolt heads protruding? Is it clean and clear of small pebbles or rubbish? Is it well lighted? Is the metal nosing on the edge of the dock securely fastened in place or is it ragged and loose? Is it at the proper height for the trucks you are using? Is the threshold to the warehouse door perfectly smooth so that either push trucks or cylinders can roll over it easily? All these things are important to accident prevention, and, when properly carried out, will increase efficiency and reduce handling costs.

Cylinder Care Essential

Cylinders should not be abused, even though they are designed to withstand hard usage and provide the maximum of safety. Exposure to excessive heat; using cylinders as a substitute for rollers, cribbing, or blocks; neglect to replace valve covers; dropping off the truck or platform—all these misuses create opportunities for accidents, increase the maintenance costs of the cylinders and shorten their lives. The cost of cylinder maintenance is of major importance and must eventually be borne by the consumer. Here, certainly, is a place where safety ties in with efficiency. The safe way is the economical way!

All cylinders should be inspected at regular intervals and a careful record should be kept of each one. Defective cylinders should be marked, segregated and repaired.

or effectively discarded at once. The man assigned to cylinder inspection must be thoroughly experienced in this job, since the first error on his part may easily be his last! Give him proper tools and equipment to work with. Reduce his manual effort to the minimum with overhead chain lifts. See that the hand tools he uses are well maintained. Cold chisels and marking tools should have well dressed heads. Sledge hammers should have sound handles which should be mounted true and firm in the tool head. Inspection requires good light. Provide plenty of it. Good ventilation is necessary for the removal of any fumes from leaking cylinders.

It is dangerous economy to try to reduce the number of valve fittings by stinting on replacements or to use sub-standard replacement parts.

Set up a routine that includes a strict observance of all of the standard safety procedures in handling, shipping and marking of compressed gas cylinders and then never let this routine vary.

A Little Paint Is Good Advertising

It is good advertising to have all cylinders well painted and distinctively marked when they leave the plant. Most people have an instinctive fear, even though it be ungrounded, of the heavy steel cylinders. They unconsciously respect the driver and the company that demonstrates a careful and well-planned system and method of handling this product.

Your delivery trucks are prob-

ably seen by thousands of people every day. Keep them neat and clean and, preferably, do not use them for anything other than the transportation of cylinders. Everyone, particularly your customers, will have a greater respect for your product when he sees it delivered in a truck designed for the purpose, with the cylinders carefully loaded and arranged for quick and easy handling.

Frequently, the driver who delivers the cylinders to the customer comes into direct contact with the employe who uses the gas. This affords an excellent opportunity for safety education if the driver, himself, sets a good safety example. He should show his own knowledge of the product by careful and orderly handling of the cylinders. When the customer's employes observe the driver slinging the cylinders about as though they were blocks of wood, they are liable to adopt the same unsafe practice.

The empty cylinders should be properly marked and segregated. This will help to prevent confusion.

Instruct your employes to report

any apparent defect in the cylinders. Show them what to observe, what to watch for and tell them why. Many a veteran of the truck fleet has adopted the fatalistic and wholly incorrect attitude that when his day comes it will be just a part of the game and that nothing can be done to prevent the accident which may cripple or kill him.

Use your letterheads, or even your statement paper, for safety messages. Or an effective, short series of safety instructions may be put on small leaflets to be enclosed with each letter to a user. Have your drivers leave a printed folder with each delivery, giving elementary safety rules.

Accident prevention must start with executive management. If you, Mr. Manager, will give the word, showing that you are genuinely in earnest in this effort, your men will be prompt to follow. Don't be afraid of going too far—it is difficult to overdo accident prevention. Your every effort will be rewarded generously with dividends in efficiency, better morale and better business.



Inspecting a new Ford truck just delivered to E. B. Miller at the plant of the Dallas Tank & Welding Co. are T. A. Sacra, Sacra Bros., R. S. well, N. M.; Thurman Cole, The Builme Co., Brownwood, Texas; W. W. Banks, Dallas Tank & Welding Co., Inc., and Mr. Miller.

Midwesters Told Why Gas Utilities and LPG Industry Should Cooperate

By comparing the sales saturation of the liquefied petroleum gas industry with that of other industries, notably electric refrigeration, Gerald E. Stedman, of The Bastian-Blessing Co., speaker before the Midwest Section meeting of the Liquefied Petroleum Gas Association held in Omaha, Sept. 30 and Oct. 1, declared that this industry is now on the threshold of the era of its greatest expansion.

With the electric refrigeration industry as an example, he showed how it, in 1930, with a 10% market saturation, stood at the same vantage point where LPG stands today. From that point in 1930 electric refrigeration saw its greatest advancement in the ensuing 10-year period, and so, also, does the greatest advance of the LPG industry lie immediately ahead. Many of Mr. Stedman's pertinent remarks, together with the market map which he presented before the Association, appear in the October issue of *BUTANE-PROPANE News*.

Where Opportunity Lies

His address entitled, "Put on Your 80% Spectacles," in further qualifying the industry for the period ahead urged the delegates to lift their eyes to the unsold market rather than spending effort

By CRAIG ESPY

in trying to take away business from competitors. He also urged the cooperative promotion of the industry by producer, dealer, distributor and manufacturer, pointing out that upon this basis proper growth will be attained.

Prior to this address Honorable Dan E. Butler, mayor of Omaha, had greeted the delegates, of which there were more at this meeting than at any previous one. Chairman Charles O. Russell had also presented J. W. Martin, President of the National association, who brought a brief word of greeting.

F. R. Fetherston, secretary, L.P.G.A., spoke on "The Association's Progress," touching especially upon the growth in membership and to the work being accomplished by the Association with regulatory bodies. Reference was also made to the state organizations being formed and to the consideration being given by the National board to bringing the state organizations into the national body. Mr. Fetherston closed his remarks by calling upon the group to write to, or discuss, with the headquarters office problems upon which that office can help.



**They Met
in Omaha**

Above: Herbert C. Erhard, Standard Gas Equipment Corp., New York; Charles O. Russell, Thermogas Co., Des Moines, Chairman Midwest Section; Walter H. Miller, Hamler Boiler & Tank Co., Chicago; Francis T. McCahill, Home Gas Co., Minneapolis, Chairman program committee.

At Right: Dr. A. Ernest MacGee, Skelly Oil Co., Kansas City; H. H. Henley, The Minngas Co., Tracy, Minn.; L. R. Forsyth, Omaha Blau-Gas Co., host to convention and new vice president.

Below (left): Gerald E. Stedman (at phone) and Harris A. Goodwin (reading BUTANE-PROPANE NEWS), both of The Eastman-Blessing Co., Chicago. Mr. Harris is the new secretary of the Midwest group.



Below (right): L. W. Johnson, sales consultant, Pittsburgh, convention speaker, who urged LPG dealers to cooperate with the gas utilities in opposing competition.



The proper technique of "Commercial and Institutional Selling of Liquefied Petroleum Gases" revolves largely around proper survey and proper follow-up, according to Herbert Erhard, Standard Gas & Equipment Co., New York. He pointed out that proper surveys will both reveal the prospects and show how to sell them on the basis of money lost under present cooking methods. He also urged the membership to get copies of government bulletins and manufacturer's booklets dealing with cooking methods, food spoilage, meat shrinkage, etc., in preparing themselves and their salesman to sell this load. "Take advantage, also," he said, "of the manufacturer's representatives, as they will be glad to assist you with sales."

Walter H. Miller, The Hamler Boiler & Tank Co., Chicago, led a discussion on common problems incidental to handling and storing LP gases. Some of the questions discussed included old and new relief valve settings, changes in relief valves and various methods for handling the fuel.

The Second Day's Meeting

The afternoon meeting on the second day opened with a paper prepared by F. E. Fisher, The Skelgas Co., Tulsa, and read by Dr. A. Ernest MacGee, of the Kansas City office of the company, on "Uniform Odorization and Elimination of Moisture in LP Gases." The paper listed 17 points covering requirements of an odorant for LP gases.

In speaking on the subject "Un-

covering Hidden Costs," H. H. Henley, Minngas Co., Tracy, Minn., mentioned many hidden costs that dealers and distributors are apt to fail to consider in going into business in this industry. Some of these include cost of cylinder investment, cylinder repair, 5-year test of cylinders, maintenance and upkeep of property, fuel loss, cost of delivery and service calls, trouble in collections, bad accounts, cost of advertising, etc. The man proposing to enter the business, he said should employ a competent engineer to completely survey the cost of doing business.

Gas Utilities and LPG

In a closing address, L. W. Johnson, sales consultant of Pittsburgh, talked on the subject, "Why Gas Utilities Should Cooperate with the LPG Industry," pointing out that it is to the mutual interest of both to get acquainted and learn to speak each other's language. He showed that it might be frequently possible for gas companies to withhold extending mains into new areas and subdivisions, if convinced that the extensions might be unprofitable and that the LPG dealer would hold the territory against electric encroachment. He also spoke of the tremendous investment of the gas industry and the importance to LPG if the gas industry got behind it.

In closing business sessions, Charles O. Russell, Thermogas Co., and Harris A. Goodwin, The Bastian-Blessing Co., were reelected to the offices of president and secretary, respectively, with L. R. For-

syth, Omaha Blau-Gas Co., going in as vice president to succeed Norman A. Evans, Pressed Steel Tank Co., retiring officer. Francis T. McCahill was chairman of the program committee.

The convention decided to hold the next annual meeting at Cedar Rapids, Iowa. Minneapolis gets the 1943 convention.

Chairman Russell appointed a Public Relations Committee con-

sisting of B. G. Symon of Shell Oil Co., Inc., G. L. Brennan, Phillips Petroleum Co., B. D. Geroy, Illinois Bottled Gas Co., and Rufus W. Scott, Thermogas Co.

Before and after sessions, much interest was shown in the exhibits, of which there were a total of 22. Another luncheon speaker, in addition of Mayor Dan E. Butler, was R. L. Bishop, manager of the Omaha branch Ford Motor Co.

Propane Fills Gap When Natural Gas Service Is Cut Off

PROPANE GAS service has replaced natural gas at Wanette, Okla. The Wanette Gas Co., owned by the Seminole Gas & Oil Co., discontinued furnishing natural gas through its distribution system Sept. 1, when its supply was cut off following a legal controversy. The difficulty is being threshed out in the courts while the Corporation Commission is considering an application of the gas company to salvage its system in Wanette. The company's distribution system was old and leakage exceeded 50%, according to E. M. Myers, gas and electric engineer of the Corporation Commission.

The American Butane Gas Co., of Oklahoma City, Okla., has taken over the responsibility of furnishing propane gas to all of the 108 former customers of the Wanette

Gas Co., who may want the LPG service, according to J. L. Grigsby, president, who spent most of the month of September in Wanette supervising the installation by his company of 21 individual, 218-gal. aboveground, propane, semi-bulk systems, and 20 aboveground, 100-lb., propane bottle systems. The company also is installing propane service for the Wanette schools. This is believed to be the first time that propane gas has replaced natural gas service in an Oklahoma town.

The Seminole Gas & Oil Co. also owned and operated the natural gas distribution systems at Asher, Kownow and Sacred Heart. The Oklahoma Natural Gas Co., however, purchased those distribution systems about three months ago and is now supplying them gas service.

Natural Gas Service's Tenth Birthday

By ELLIOTT TAYLOR

THE Natural Gas Service Co., a propane distributing organization with headquarters at Hammonton, N. J., celebrated its tenth anniversary on Sept 25 with the opening of its second bulk plant, under the name of the Natural Gas Co. of Pennsylvania, at Exton, Pa. Simultaneously with the formal dedication of the new plant, a tenth anniversary sales drive was launched for the entire system, with the distribution of \$100,000 in \$10 birthday "checks" to customers and prospects, each check being in effect a merchandise certificate good for its face value as a down payment on the purchase of any new appliance sold by the company.

Pioneering is Rewarded

The history of the Nat-Gas trade name has been one of rapid but sound growth through the employment of aggressive sales tactics coupled with unremitting research and pioneering work in the development of new uses and applications for propane wherever heat is employed.

Victor Hamilton, president, and Samuel Kapnek, vice president and general manager of the company, have been associated in many and varied business enterprises over a period of 42 years; but during the 10 years of expansion of their LPG venture, their other interests have all assumed places of secondary importance, until now both principals devote their entire time to Nat-

Gas, and are assisted in their efforts by an ever-increasing staff that now numbers over 75 employes, an organization requiring much executive direction.

These two companies, the Natural Gas Service Co. and the Natural Gas Co. of Pennsylvania, now serve an area of some 500 square miles, embracing the lower half of New Jersey, upper Delaware and eastern Pennsylvania. On the books of the two companies are over 10,000 domestic consumers, and a large number of commercial and industrial accounts.

The New Jersey Co. first opened for business in 1930, with the present officers, including Samuel Glickman, secretary, personally making all of the sales, and carting the filled propane cylinders from a bulk station at Bound Brook, N. J., a distance of 80 miles.

By 1934 the number of residences using Nat-Gas had increased to about 2000, and the increasing demand for service justified the erection of the first bulk plant and what is now the main office of the company on White Horse Pike in Hammonton.

Within three years an additional 3000 domestic users brought that total up to 5000 and due to the pioneering efforts of Mr. Hamilton and Mr. Glickman in promoting the use of propane for industrial purposes, that department of



(1)



(2)



(3)



(4)



(12)

1. A motorcade of Nat-Gas trucks forms at the Hammonton office of the Natural Gas Service Co., to proceed with police escort over New Jersey highways, through Philadelphia, and on to Exton, Pa. This office was constructed in 1934.
2. Secretary Samuel Glickman beams his approval as the fleet of 18 trucks forms into line in the Hammonton plant.
3. At the Philadelphia city limits a police escort ignores the rain to greet the cavalcade of trucks and cars bound for the Exton opening.
4. Lined up before the Philadelphia office of the Natural Gas Co. of Pennsylvania, the motorized equipment makes an impressive showing. Ten years ago the fleet consisted of one model T Ford, converted to a pickup.
5. The fair employees of the Hammonton office wait impatiently for quitting time (and Lotharios) to escort them to the company banquet and dance at Exton.
6. Courteous officers of the Pennsylvania State police speed the parade across the highways of their state.
7. The new 15,000 gal. propane tank



(5)



11

built by Downingtown Iron Works dominates the scene as the Exton plant comes into view by the motorcade.

8. Another view of the plant reveals Scaife cylinders piled in the yard, awaiting filling; from the Philgas tank car in the background propane is being discharged into the station tank.

9. A Brunner compressor unloads the car by vapor pressure differential method.

10. A pump for filling cylinders is installed. Both the compressor and the pump are direct connected to individual Ford motors, mounted outside the pump and compressor house.

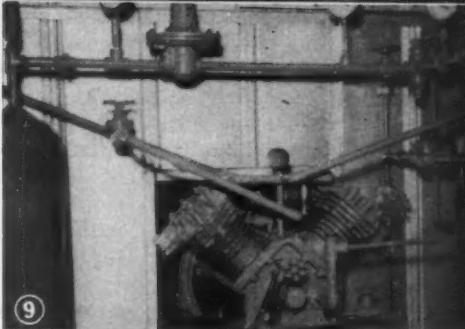
11. For further facts, BUTANE-PROPANE NEWS reporter interviews Victor Hamilton, president of the Natural Gas Service Co. and the Natural Gas Co. of Pennsylvania.

12. At the tenth anniversary banquet, General Manager Kapnek and President Hamilton pose behind the stacks of checks to be mailed out to customers; explain to 75 employees present the details of the 30-day sales campaign just inaugurated.

Photos by Wm. L. Hauck, of Wm. B. Scaife & Sons Co., New York City.



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7



the business began to expand fast.

In 1938 a separate company was organized in Pennsylvania under the name of the Natural Gas Co. of Pennsylvania, and a service office was located at Montgomeryville, Pa. Within a few months increased customers necessitated still additional new offices at Freehold and at Breton Woods, N. J.

To handle the industrial and commercial field a separate office was next opened in 1939 at 1234 Spring Garden St., Philadelphia.

While the majority of Nat-Gas customers are served from a two-cylinder installation, within the past year a metered service has been introduced, with gas delivered by tank truck to permanently

installed tanks of large capacity—420 to 100 lbs. of propane—depending on the individual customer's estimated average demand. About 15% of the system is now on metered service, customers being billed monthly on a decitherm basis for gas consumed.

In addition to the six strategically located offices and display rooms, two of which are part of bulk filling station, with all of the necessary buildings, warehouses, garages and operations structures, the physical equipment of the affiliated companies includes 18 G.M.C. trucks, ranging in size from one-half ton to a ton-and-a-half, and two 1000-gal. tanks trucks for industrial, metered deliveries.



Organization meeting of Arkansas Liquefied Petroleum Gas Dealers Association, Sept. 6. BACK ROW (left to right): R. C. Weis, T. T. Burgess, Cy Carney, Amos David, S. N. Bolton, A. C. DeClerk, Lewis E. Bowen, P. H. Riley, B. T. Harris. MIDDLE ROW: J. D. Newcomb Jr., Paul Oates, Claude Rogers, O. B. McCracken, E. J. Allbright, W. O. Childress, F. P. DeLarzelere, C. N. Kent, Leonard Warden, C. C. Fricks. FRONT ROW: Ed I. McKinley, J. T. Gregory, Verdell Moore, J. E. Faris, C. E. Buell, Mrs. Mitchell, H. P. Riley, F. M. Callen, Dick Gooch, W. F. Schallhorn Jr., George Jensen.

"Skelgas County Fair" Plugs Window Showmanship

THE sales value of carefully planned window displays of gas appliances and the large number of daily impressions which the displays make upon passers-by were dramatized this fall by the "Skelgas County Fair," sponsored by the Skelly Oil Co., and directed by J. H. DeLoria, of the advertising department.

The "Fair," held in nine mid-west and north central cities before Skelgas dealer groups, was composed of a traveling troupe of 14 performers and some 5000 pounds of stage props, consisting chiefly of a full-sized window crammed with an assortment of unrelated items not too well arranged and which represented the general merchandise store window as it looked 10 years ago.

Throughout the entire program was depicted the progress of an individual dealer over the last 12-year period. Not only was his individual progress revealed, but the progress of the Skelgas organization and the industry itself was dramatized since 1928.

A striking comparison of window displays of gas appliance dealers in the early '30's and of today was presented on the stage. A critical analysis of this window was given, followed by the presentation of a full-size reproduction of a modern appliance store window display.

By HOWARD BARMAN

The modern window featured color and light with a single Skelgas range on display.

Many store windows in towns and small cities of 10 years ago had no adequate or attractive lighting. Today's modern display window, as demonstrated by Skelgas, has spotlights to illuminate the appliances and the dealer's product is advertised on an inside Neon sign.

By means of statistical charts, the figures on which were assembled in a nation-wide survey, it was revealed that the staggering total of over 442,000,000 impressions could be created with the proper use of displays, light and color in Skelgas dealer windows throughout the trade area.

The atmosphere of a real county fair prevailed at the Skelgas divisional shows of cooking, water heating and refrigeration appliances. There was target shooting, red lemonade, the familiar carnival barker and county fair souvenirs.

The Skelgas show was put on at Denver, Omaha, Des Moines, Minneapolis, Madison, Chicago, Indianapolis, St. Louis and Kansas City.

The program was enthusiastically received by the Skelgas dealers in attendance, the number ranging from 125 to 350 men.

SELLING

Forerunner of Progress

HERE are those who would say that we were stretching a point too far to proclaim *salesmanship* as the forerunner of progress. In rebuttal, the opponents of this proclamation might point with smug satisfaction to inventive genius and its products such as the steam engine, the telephone, the electric bulb, the automobile.

Consider the items named. A prejudiced public threw up opposition to their acceptance that could have meant defeat. It was not the things themselves but salesmanship that put them over.

The steam locomotive met and overcame such drastic opposition as a law in New York prohibiting the laying of track; and the ministers' fight against it declaring it to be "in direct opposition to the laws of God;" and the medical societies' condemnation which warned that "the air would be poisoned and birds would die of suffocation."

In 1865, a typical editorial appeared in an Eastern newspaper which read: "Well-informed people know it is impossible to transmit the human voice over wires and, were it possible to do so, the thing would have no value." No less than 44 years ago, a New York paper ridiculed a man who had the "crazy

notion" of supplanting gas lights with electricity. There are those who live today who once scoffed at the automobile as a "fool contraption."

Strangely enough, these inventions and many others did not come into being because people wanted them. They were created by men of vision and sold by men of vision.

People don't buy—they are sold. And in our own business, we push gas appliances and our own well-being forward in the degree to which we argue, exhort and persuade others to accept the advantages of what we offer.

Give Her Proof

How do you stand on the matter of price? Is price your master, or are you the master of it?

It stands to reason that a salesman who stammers or approaches the question hesitantly when asked to state the price is not sure of his ground.

Yet why shouldn't he be!

The price of a gas appliance is and should be of secondary importance. Still, more otherwise good salesmen stumble and often flatly fail on the price issue than on any other factor in the sales procedure.

A customer who says, "I can't pay it," or "that's too much," or "I can't afford it," is saying rather, "you have not convinced me that the need for this appliance is greater than the need for the money I'll have to pay for it."

In truth, a prospect is asking for more proof, more information. She is not questioning the price; she is

DOTTED LINE ROSCOE ... by Bob Crosby



"It's a elegant range, Mah, but how's Paw gonna git
his feet in that thar warmin' oven?"

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questioning her need for what you ask her to buy. And it is proof that she has a right to expect and that you are obligated to give.

Answer her by talking merely of "low cost" and you'll get nowhere; answer her by restating need, emphasizing efficiency and the money to be saved and you'll make a sale.

Ring in the Old

One of the most famous stories given us by Abraham Lincoln, famed for his anecdotes, concerns the innkeeper so busy renting rooms in the east wing that he did not have time to extinguish a fire consuming the west wing.

This story might well apply to salesmen who forget or overlook the value of customers and spend more than a fair share of their time working the prospect list.

We speak of "customers" as comprising those who have been called upon and *sold* not merely on the product but on the representative and on the company he represents. We speak of the "prospect list" as comprising those who are yet to be sold or more than one or all of these things.

Plainly, an initial sale can and should pave the way for new business at some future time. Or if the customer has new gas appliances throughout, she is valuable for the business she can help you get by speaking favorably for gas appliances.

But if you spend too much time "renting rooms in the east wing," the "west wing is liable to burn down." Holding a customer and

cultivating her for future sales is the faulty conclusion that once a no less important than getting initial sales.

Salesmanship

As a baby you sold your mother on the idea of feeding you, by yelling.

As a youngster you sold your family on staying up past your regular bedtime by many and varied excuses.

As a young man you sold your family on the idea of owning the make of automobile you liked best.

As a man you've sold (or will sell) a certain woman, through courtship and proposal, on the idea of becoming your wife.

Nature herself is a salesman—and sells you through the beauty of trees and flowers, majesty of mountains, and the grandeur of the sea.

Your dog also sells you by barking and wagging his tail.

Every married woman has to sell her husband on the idea of a new hat.

Every married man has to sell his wife on the idea of a night out.

Every successful man is so because he is an excellent salesman.

Every idea has to be sold—against doubt and resistance.

Selling is not new—it is as old as life itself!

So—selling the advantages, conveniences and economy of liquefied petroleum gas and gas appliances is just another easy step in your lifetime of selling experience! —
Reprinted from sales letter of Phil-gas Department, Phillips Petroleum Co.



ENSIGN

Butane Carburetion

LEADS IN EVERY FIELD

1. Engineering Research ✓
2. Engine Performance ✓
3. Quality Merchandise ✓
4. Nation-Wide Sales ✓

Ten thousand installations in six years prove the practicability of Butane as an engine fuel, and the dollars and cents advantage in ENSIGN Butane Carburetion.

Operators report savings up to one cent per mile, reductions in maintenance costs from 25% to 40%, 25,000 miles between oil changes, etc. There's plenty of proof when Butane is carbureted by ENSIGN Equipment.

EN SIGN, with more than a quarter-century of experience, builds the finest in carburetion for Butane; ENSIGN leads in every field. There's nothing better at any price. Write for details without obligation.

ENSIGN

CARBURETOR CO. LTD.

HUNTINGTON PARK, CALIF. • DALLAS, TEX. • CHICAGO, ILL.



Equipment and crews ready for fire fighting demonstrations, Fresno, Calif.

West-Coasters Watch Safety Men Handle LP Gas Fires

ATTRACTING more than 300 interested members and guests, including firemen and insurance men throughout the State, the Fall meeting of the Pacific Coast Section of the Liquefied Petroleum Gas Association was held in Fresno, Calif., Oct. 19.

The program of the one-day meeting, featuring safety and fire demonstrations, consisted of four informative papers, and a fire extinguishing demonstration. Chairman C. L. Parkhill presided, with John H. Kunkel as Sectional secretary.

Using the title "The Liquefied Petroleum Gas Industry," Tallent H. Ransome, Sectional vice chairman, gave a brief summary of the industry's growth since 1903. In order to grow so rapidly and consistently, Mr. Ransome believes, the product must be useful and have a good safety record; the use of LPG increases rapidly because the pub-

By PAUL LADY

lic likes it and feels protected. Discussing "The Fire Services' Viewpoint," P. C. Pifer, chief of the Bakersfield fire department, presented the idea that LPG is only more dangerous than gas and fuels of this type in that there is a pressure vessel present. There is essentially no difference between LPG fires and gas fires. Thus far, he stated, our experiences have not made the firemen prejudiced against LPG. However, the location of the pressure vessel is of greatest importance and it must be safe. The important requirements for safe installations, from the standpoint of the firemen, include: Butane installations as a unit should have permit and inspection; installations should be put in by authorized men with qualifications; odorant should be required; vessels should meet all requirements as to

*Combining SAFETY
with ACCURACY*

**the EMCO Special
Butane-Propane
Vapor Meter**



THE EMCO Special Butane-Propane Vapor Meter has a cast iron case—rugged and non-corrosive, designed to withstand internal pressures and external damage. Also of important consideration for the user interested in safety is the fact that the EMCO design has but two relatively short sealing surfaces. By the use of surface grinding, a specially developed gasket and a generous number of large diameter screws, complete and permanent sealing is provided.

In the EMCO Butane-Propane Meter the index housing is an integral part of the meter cover. It is closed by means of a new development in solderable, thick, high strength glass, giving a complete seal without the possibility of leakage.

The thoroughly lubricated and rigidly supported index drive shaft is mounted with its drive gear in a sturdy, integrally designed movement box. The design also provides a lubricated seal which prevents the escape of gas should the index glass be accidentally broken. Indexes reading in therm, deci-therms, gallons, pounds or equivalent cubic feet, are now available, as well as the standard cubic foot index. Special connections to fit the needs of the Liquefied Petroleum Gas Industry are provided optionally at the side or top of the cover.

Bulletin 1063 gives complete description—write for your copy.

PITTSBURGH EQUITABLE METER COMPANY

MERCO NORDSTROM VALVE CO.

NEW YORK - BUFFALO - PHILADELPHIA
KANSAS CITY - TULSA - LOS ANGELES

DES MOINES - CHICAGO - COLUMBIA
MEMPHIS - OAKLAND - HOUSTON

Main Offices - PITTSBURGH, PA.

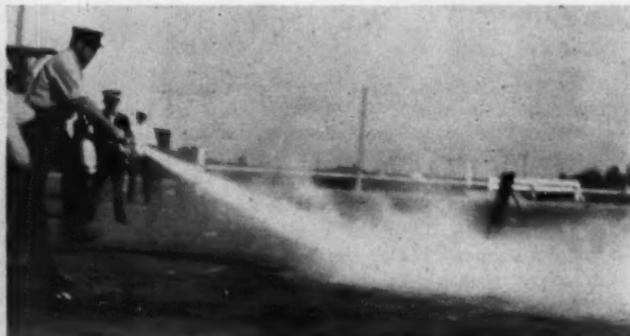
codes; tanks filled on premises should be located a good distance from structure; butane filling stations should not be in crowded metropolitan area; there should be no unlabeled containers. Chief Pifer emphasized that the future of the LPG industry depends very much on how well safety and precautionary measures are enforced.

Talking on "The Insurance Underwriters' Viewpoint," Marshall Somerville, Board of Fire Underwriters of the Pacific, stressed the importance of proper regulations.

A paper on "The Physical Properties of Liquefied Petroleum Gas-

es," by M. B. Anfenger, Standard Oil Co. of Calif., was presented with an interesting platform demonstration. It dealt with the explanations of the meaning of "vapor pressures," inflammability limits, explosive range of LPG.

The afternoon program, held at Fresno County fair grounds, was devoted to safety demonstrations, presenting actual demonstrations of fuel handling, pumping and transfer, action of butane safety devices, action of butane fire fighting equipment, and of the control, methods of fighting, and methods of extinguishing LPG fires.

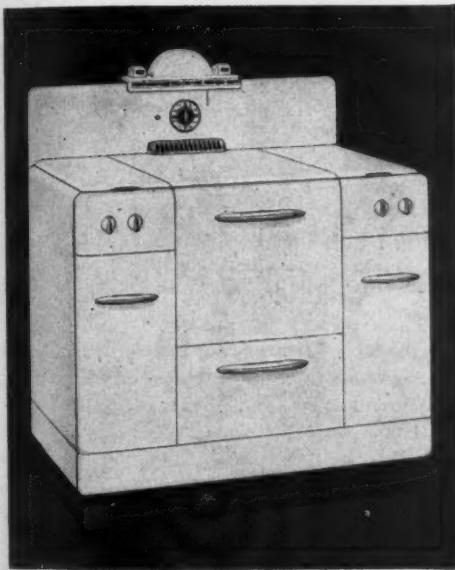


Extinguishing vapor fire with small fire extinguisher. Several types of hand extinguishers were used in the demonstration, all of which put out the LPG fires within a few seconds. The escaping gas was shut off at the source immediately.



Vapor sniffer, used during fuel transfer demonstration to locate and measure amount of escaping gas, in the hands of Stanley Clithero, at right, commentator throughout the afternoon program. Tallent Ransome, in foreground, explained procedure and safety features of correct transfer.

FLORENCE DOES DOUBLE DUTY FOR YOU IN THE BIG LPG MARKET!



FLORENCE *Gas Ranges*

FOR LIQUEFIED PETROLEUM GAS

NOVEMBER - 1940

When you point out how Florence features make cooking easier, surer and pleasanter, your prospective customers will see at once that a Florence LPG Range assures them the best there is in cooking! That's a big help in selling LPG service!

More than that, Florence Ranges help to keep your LPG users *satisfied*, because they give such thoroughly dependable service.

Florence offers you a full line of LPG Ranges to meet the need of every one of your prospects—magnificent de luxe models, like the beautiful range shown here, moderate-priced models packed full of modern features, promotion models that are top-ranking values! Mail the coupon today.

FLORENCE STOVE COMPANY

General Offices and Plant, Gardner, Mass.; Western Offices and Plant, Kankakee, Ill.; Sales Offices: 1458 Merchandise Mart, Chicago; 45 E. 17th Street, New York; 53 Alabama Street, S.W., Atlanta; 301 N. Market Street, Dallas; and 2730 16th Street, San Francisco.

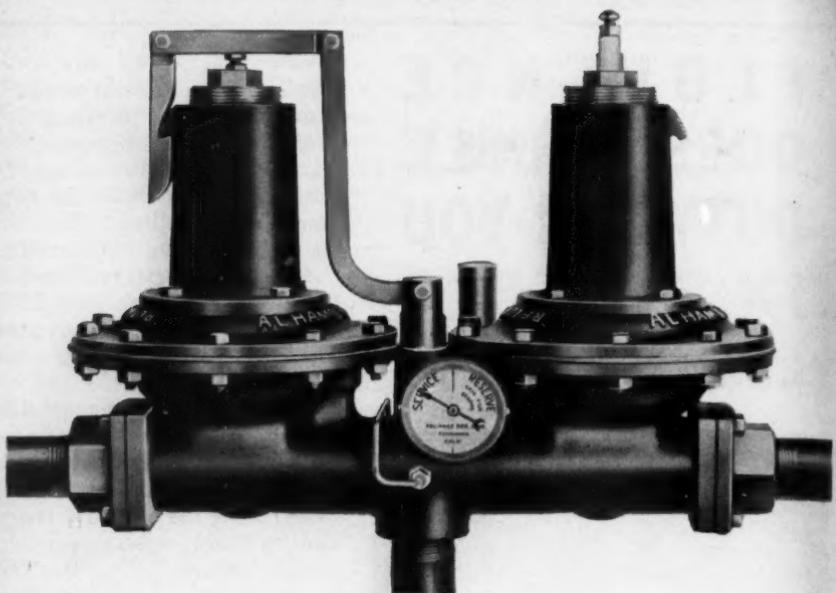


FLORENCE STOVE COMPANY

Please send me the Florence Gas Range Catalog, prices, and full information about the liberal Florence Promotion Plan for Dealers.

Name. _____

Address. _____



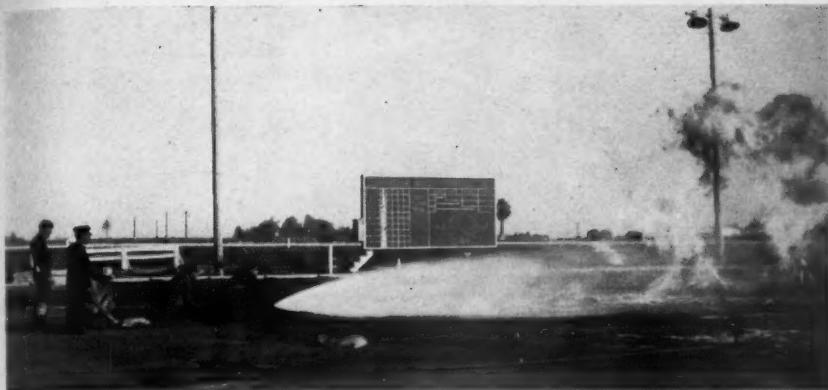
REGULATE LPG WITH RELIANCE

The stability and growth of the liquid petroleum gas industry depend on efficient, positive, sensitive regulation of gas at the point of use.

Reliance designed and produced the first dependable Regulators for bottled gas. Original features have given preference to Reliance Regulators from the standpoint of compactness, accessibility of parts and uniform outlet pressure over a wide range of variable inlet pressures. Patented features in these regulators insure full protection to consumer and low maintenance cost to the gas company.

RELIANCE REGULATORS

RELIANCE REGULATOR CORPORATION
1000 MERIDIAN AVENUE, ALHAMBRA, CALIFORNIA



High pressure liquid fire being controlled by fog nozzle while liquid is being shut off at source. Control of fire is necessary in this case so that gas will not escape and reignite with dangerous fire and explosion.

The fire control and extinguishing demonstrations were carried on by members of the Fresno fire department, and the Division of Forestry of Fresno county. Stanley Chithero, General Petroleum Co., Los Angeles, acted as commentator throughout the afternoon, describing each display minutely in order that the important methods and procedure of control and extinguishment might be understood by everyone present.

The demonstrations included the types of fires that might be encountered by men around plants,

by distributors and by users. Throughout the demonstrations emphasis was placed on the importance of controlling the fire rather than attempting to extinguish it. It was the belief of those in charge that control—allowing the fire to burn until the gas is shut off at the source—is the safe and practical method of handling LPG fires. It is essential, they believe, that the fire burn as long as the gas is escaping in order that clouds of gas do not gather and later ignite bringing damage to property and to individuals nearby.

Firemen controlling vapor fire escaping through ell. Fire was knocked down and controlled while fourth man in crew shut off line at valve. In this case the fire is still burning although it is held in control by fog nozzle.





Exhibit of American
Butane Gas Co. at
the Oklahoma State
Fair grounds.

By O. D. HALL

LPG Pulls Crowd at Oklahoma Fair

LIQUEFIED petroleum gas, appliances and equipment were featured at the Oklahoma State Fair during the week of Sept. 21-28 in Oklahoma City.

By the interest manifested in the displays of Sims & Sims, American Butane Gas Co., and Oklahoma Automatic Gas Co., it was evident that rural home owners are accepting this fuel as an important part of their domestic living and farm operation.

Many systems were purchased for immediate installation and excellent prospect lists were obtained. Altogether, 277,887 visitors registered at the Fair, and most of them saw the LPG exhibits.

So enthusiastic was Mrs. Carl Nicek, suburban resident northwest of Oklahoma City, that she baked cookies on her own range at home and distributed them at the booth of Sims & Sims, Hydro-Gas distributors, to show how excellently LP gas cooks. Mrs. Nicek has her

home completely equipped, including a gas range and water, space, circulating and bathroom heaters.

The Oklahoma Automatic Gas Co. tried an out-of-door exhibit at the fair, banking on good weather most of the eight days, which it received. Among other equipment



The visitors and Attendant G. A. Waldek at the Sims & Sims exhibit certainly did not "play up" to the camera. New names on the dotted line were more important.

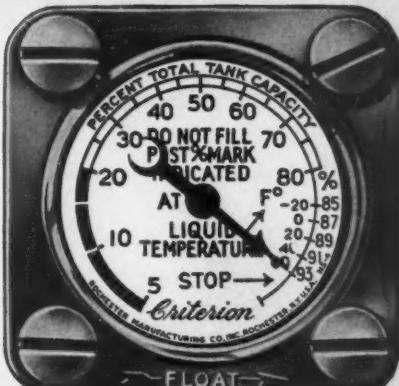


Every L. P. G. System is
a *Better-Safer* System
When Equipped With a
CRITERION GAUGE

.... In case this sounds boastful—ask any L.P.G. distributor whose installations are equipped with these Gauges. He'll tell you that they are not only accurate and dependable but *safe* too! . . . safe because there is no chance of fumes or liquid escaping the tank through the Gauge head. This *leak-proof* feature is worth the price of a Criterion Gauge alone! It's a feature that every L.P.G. customer is entitled to.

MANUFACTURERS!
Specify Criterion Gauges
on Your L.P.G. Systems

ROCHESTER MFG. CO., Inc.
17 Rockwood St. Rochester, N. Y.



Rochester Criterion Gauges are adaptable to both **ABOVE** ground and **UNDER** ground systems. Top photograph shows Criterion Gauge as installed in end of dome of above ground system of the **AMERICAN PIPE & STEEL CORP., ALHAMBRA, CALIF.**

ROCHESTER *Criterion*
GAUGES

displayed was a 6400-lb. display trailer in which an interesting line of LPG ranges, space, circulating, and water heaters and other appliances and equipment were displayed. This trailer, air-conditioned and equipped with its own 110-volt electric light plant, visited 15 county fairs throughout the State before coming to the State fair. It was instrumental in securing several new dealers and many new customers and prospects for the company.

For the fourth consecutive year the American Butane Gas Co. had an exhibit at the fair. J. L. Grigsby, president, and L. L. Kessler, sales manager, of the company, said that their salesmen talked to many prospects, whose names were secured on the grounds, and made several direct sales from the exhibit floor. In their exhibit was shown propane brazing and cutting tools and one of the larger above-

ground tanks, typical of household propane installations. F. W. Carson, a company salesman, was in attendance at the exhibit.



A. D. MacLean Is Vice President Of Pittsburgh Equitable Meter

Colonel W. F. Rockwell, president of the Pittsburgh Equitable Meter Co., has announced the election of A. D. MacLean to the vice presidency of the company.

Mr. MacLean is a graduate of the School of Engineering, Harvard University. His first connection in industry was with the Ashton Valve Co. of Cambridge, Mass., as chief draftsman. He later accepted a position with the engineering department of the New Departure Division of General Motors Corp. and was subsequently promoted to become assistant chief engineer.

In 1926 Mr. MacLean joined the EMCO organization as chief engineer, which position he has filled until the present date.



The Oklahoma Automatic Gas Co. outdoor exhibit drew a mixed crowd. Those without hats are (left to right): Hugh Fenton, W. S. McMichael, John Harrison, and Joe Blickenstaff, company salesmen.

BOTTLED GAS USERS FIND THAT: TRUE ECONOMY STARTS



WITH WEDGEWOOD *Extra Savings*

—IN FUEL

Greater efficiency results in lower fuel costs.

—IN FOOD

Uniform cooking performance results in less waste, improved flavors.

—IN TIME

Does not require constant watching.
More leisure and less work result.

—IN COSTS

More durable construction results in trouble-free lifetime service.



A wide selection of finer quality ranges —there's a Wedgewood to fit every need and purse.

WEDGEWOOD

THE WEST'S MOST
MODERN RANGE

JAMES GRAHAM MANUFACTURING CO. • San Francisco
• Los Angeles • Newark, California • Portland, Oregon •

Four-Point Plan Guides Salesmen

Four business principles have guided the Elkins Butane Gas Co., of Wheaton, Mo., in its distribution of liquefied petroleum gas over 20 counties in southwest Missouri. These are:

1. A definite plan for every retail sale, based upon the customer's individual needs.
2. The employment of capable men to make all installations.
3. Prompt deliveries and safe transfer of fuel at all times.
4. The thorough instruction of every employe in the work he has to do.

These were the facts recently learned by Fred Henninger, of the McNamar Boiler and Tank Co., Tulsa, Okla., when he attended an Elkins sales meeting and dinner at which he met the entire personnel of the company.

It was at the same meeting that Manager Elkins announced plans for two Fall sales contests, one covering a campaign on floor furnaces and the second on other types of space heating equipment. He also outlined the additional company expenditures he will make to facilitate selling and distribution in the territory covered.

Mr. Henninger addressed the group on the problems that confront the tank manufacturer with regard to the fabrication of liquefied gas equipment, and a complete analysis was attempted to bring home to everyone present the basic differences between the ASME code of workmanship and ma-

terials, and the National Board of Fire Underwriters code of safety features. This discussion met with quite a number of enthusiastic questions and everyone gained a more comprehensive idea of the complete problems.

From the standpoint of sales policies, considerable explanation was made of the basic fundamentals of selling, emphasizing the fact that each man must *know his business*.

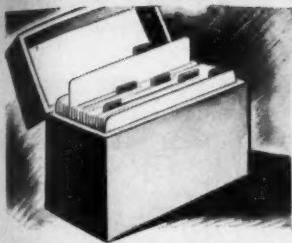


N.B.F.U. Pamphlet No. 58 Revised to August, 1940

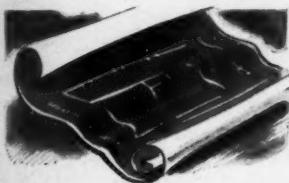
The National Board of Fire Underwriters has released the new pamphlet No. 58 dated August, 1940, titled "Standards of the N.B.F.U. for the Design, Installation and Construction of Containers and Pertinent Equipment for the Storage and Handling of Liquefied Petroleum Gases as recommended by the National Fire Protection Association."

These standards are a coordination of, and supersede, previous editions dealing with liquefied petroleum gas, namely, Pamphlet No. 52, dated July 1937; pamphlet No. 58, dated July 15, 1939, and pamphlet No. 59, dated October, 1939.

The new standards are a rearrangement of the material in the above mentioned pamphlets to tie in the various types of handling, such as in I. C. C. containers, other tanks and truck transportation. The consolidation of the various pamphlets is a progressive move and the new booklet will be found to have great value to all connected with the LPG industry. Copies may be had upon request.



DOMESTIC SUPPLY METHODS — Sales methods, marketing information, construction of plant facilities, are available to domestic suppliers who are customers of Shell.



INDUSTRIAL USES — Shell engineers are thoroughly experienced in all industrial heating application such as heat-treating and high temperature work. They are prepared to help you in design of new equipment, development of new processes.



COMMERCIAL USES — Shell engineers have helped develop processes for the use of liquefied petroleum gas in such widely varied services as gas enrichment, internal-combustion engine fuel, hotel kitchen and dining car fuel, etc.

NO MATTER WHAT THE PROBLEM...

Experience in every use is at your command when you specify Shell Liquefied Petroleum Gas —

THROUGH years of experience, Shell has accumulated a wide variety of information on the uses of liquefied petroleum gas.

The breadth of this experience assures you of competent advice on such diversified subjects as equipment design, application methods, storage and handling methods, construction of facilities, and marketing information for domestic suppliers.

The length of this experience assures you of the soundness of the service offered you by the Shell engineering staff.

Shell's experience, Shell's technical service are as near to you as your phone. Simply call the nearest Shell office.



SHELL LIQUEFIED PETROLEUM GAS

Offices of SHELL OIL COMPANY, INCORPORATED • NEW YORK, SAN FRANCISCO • Also
ALBANY • ATLANTA • BALTIMORE • BOSTON • CHICAGO • CLEVELAND • DETROIT
INDIANAPOLIS • JACKSON HEIGHTS, N. Y. • MINNEAPOLIS • NASHVILLE • ST. LOUIS

Dependable...Constant... FUEL SERVICE.

REGO AUTOMATIC CONTROL MANIFOLD is designed to give uninterrupted service.

ONE-PIECE FORGED BRASS BODY . . . rugged and compact construction.

LARGE DIAPHRAGMS . . . accurate regulation.

DIAPHRAGM CONNECTED TO VALVE STEM . . . assures positive response of valve to movement of diaphragm.

INDICATING GAUGE . . . informs user whether service or reserve cylinder is supplying fuel.

STEM-TYPE VALVE CONSTRUCTION . . . valve disc closes with pressure, thereby compensating for variations in cylinder pressure and causing more accurate positioning of indicating gauge needle.

RESILIENT DISC-TYPE VALVE-SEAT ASSEMBLY . . . ample capacity and tight shut-off.

P. O. L. CONNECTIONS . . . unit is interchangeable with hand-operated manifolds.

REGO

AUTOMATIC CONTROL
MANIFOLD



...Automatic...



No. 2518 RegO
Automatic Control Manifold

The advance leadership of RegO engineering brings you uninterrupted fuel service through the Automatic Control Manifold. This unit supplies fuel to the system from one cylinder only until its pressure drops to approximately 6 pounds per square inch . . . then the reserve cylinder cuts in automatically. An indicator shows whether the service or reserve cylinder is supplying fuel. This indicator can be furnished either direct-connected as shown above, or remote-connected with mounting bracket and copper tubing for installing the indicator at some convenient location.

Specify RegO Automatic Control Manifold.



Listed and Approved by
Underwriters' Laboratories



The **BASTIAN-BLESSING** Co.

258 E. Ontario St.

Chicago, Ill.

Pioneers in equipment for using and controlling high pressure gases.

Green's Fuel New Home Opened In Sarasota, Fla., Oct. 14-15

Green's Fuel, Inc., celebrated the formal opening of its new building and showrooms in Sarasota, Fla., on Oct. 14-15. It marked the rapid rise of the company under the direction of J. B. Green, president, and K. H. Koach, general manager and vice president, which now covers three southern states through dealers and distributors.

The new general office building and showroom is located on a two-and-one-half acre plot on the Tamiami Trail, over which practically all cross-State traffic passes.

The new building is of re-enforced steel and concrete blocks construction, and the two-story warehouse has glass screening, which was featured at the New York World's Fair, and provides the best possible light under all conditions. Large plate glass display windows have been provided and the latest type of fluorescent lighting system with automatic timing clock is used, permitting the show-

room to be fully lighted each evening. Large concrete block letters with the company name are on the front of the building, and are effectively lighted.

Before the formal opening, the public was invited to attend through the use of radio, newspaper advertisements and individual invitations. An automatic pencil, was given to every visitor and a silverware set valued at \$25.50 was given as a door prize at the end of each day.

The selection of the present site for this new building was based on the fact that it would serve as a statewide advertisement for the entire Green's Fuel organization, and would, both night and day, publicize the Green's fuel business and be of considerable advertising value. A photo of the building is shown on this page.

◆ ◆

Butane for De Witt, Ark.

Hugh Bowers has obtained a franchise for the sale of butane in De Witt, Ark., and will carry a full line of LPG appliances.



The Sarasota, Fla. site for this new home of Green's Fuel, Inc., is on the Tamiami Trail which carries practically all of the cross-State traffic and was selected partly to take advantage of the high advertising value of such a location.

GET THE BIG USERS WITH THIS VULCAN LPG COOKING EQUIPMENT



VULCAN COMPLETE
KITCHEN-IN-ONE UNIT



VULCAN SECTIONAL
BAKE OVEN



VULCAN
DEEP FAT FRYER

Here are three of Vulcan's BIG line of LPG cooking equipment for hotels, resorts, restaurants, roadside stands, etc. They are popular, easy to sell and quickly build up a substantial commercial cooking load.

VULCAN COMPLETE KITCHEN-IN-ONE UNIT Packs a lot of high-class cooking service into small space. Closed and open top sections, combination ceramic type broiler and griddle. Two fast-heating, insulated ovens, with automatic heat control, take care of baking and roasting. Many sizes.

VULCAN SECTIONAL BAKE OVEN Expand the use of LPG by bakeries, delicatessens, hotels, restaurants, etc., with this popular-priced oven. The only oven with multiple heat conduits, assuring greater speed, economy and flexibility. Each section or deck separately heated and controlled. Extra decks can be added when needed.

VULCAN AUTOMATIC DEEP FAT FRYER For sea-food, dough-nuts, all kinds of fried food. Cheaper, safer, better in every way than the old fry kettle. Fat lasts twice as long. Automatic heat control assures economical operating. A size for every need.

You'll find VULCAN equipment easier to sell. It is known for its quality from coast to coast. Selling aids, field help and planning service will assist your salesmen.

GET THE FACTS! USE THIS COUPON!

STANDARD GAS EQUIPMENT CORP.

18 E. 41st Street, New York

Name..... Title.....

(Write company and address in margin)

Boston • Philadelphia • Baltimore • Chicago • Aurora, Ill. • Los Angeles
New Orleans

Show me how Vulcan can help me sell more Commercial Cooking Equipment.

Accident Prevention as Aid To National Defense

Ten thousand safety leaders assembled in Chicago October 7 for a two-fold purpose:

1. To further reduce accidents in all walks of life.
2. To discover how organized safety can best serve the nation in the event of national emergency.

The occasion was the 29th National Safety Congress—the world's largest safety meeting. It is the annual meeting of members of the National Safety Council.

For five days—October 7-11—the delegates probed accident causes in industry, traffic, homes, farms, schools—everywhere. There were 162 distinct sessions and more than 580 speakers and program participants, among them representatives of the Army, Navy, universities and business.

World conditions lent special significance to this year's Congress. Safety leaders recognize that accident prevention must play an im-

portant part in national preparedness.

Guiding the Congress in its hunt for hazards was Colonel John Stilwell, president of the National Safety Council, and W. H. Cameron, managing director of the Council since it was founded in 1913.



Southwest Stove & Supply Holds Sales Meeting

"How to Succeed in the LPG Business" and "How to Handle Prospects," two questions to which every dealer seeks the best answers, were the subjects of talks by M. E. McKay, Southern Steel Co., San Antonio, Texas, when he appeared before the September sales meeting of the Southwest Stove & Supply Co. at its Dallas office.

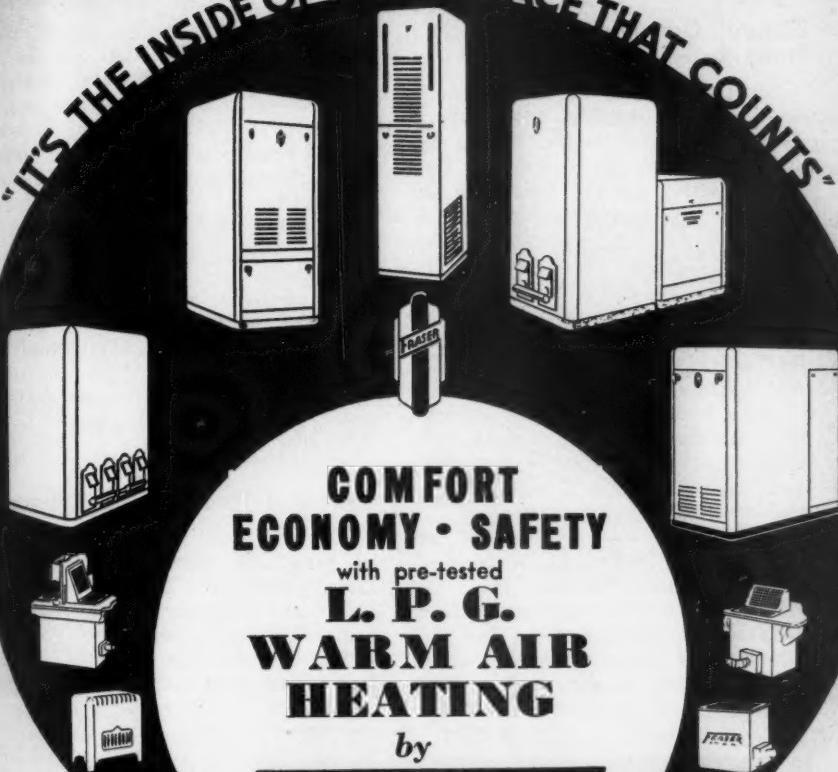
Dinner was cooked on an LPG range before the group as other talks and discussions preceded the banquet. A photo of those in attendance is shown on this page.

The Southwest Stove & Supply Co. handles the Hydro-Gas systems.



A sales campaign chart is being studied by those who attended a meeting of the Southwest Stove & Supply Co. in Dallas, in September. Seated are: M. E. McKay, Southern Steel Co., San Antonio; C. M. Russey, manager Southwest Stove & Supply Co.; C. M. Lucas, and L. C. Teague. Standing: E. K. Russey, E. E. Laswell, A. H. Weaver, and C. L. Roden.

"IT'S THE INSIDE OF THE FURNACE THAT COUNTS"



**COMFORT
ECONOMY • SAFETY**

with pre-tested

**L. P. G.
WARM AIR
HEATING**

by

FRASER

There is an L.P.G. Fraser unit for every heating need. From circulating consoles to Winter Air Conditioning systems, each type is made in a wide range of sizes. Advanced Fraser engineering and the finest quality materials assure operating economy . . . longer life . . . customer satisfaction. Simplified assembly, fully wired controls, and many other Fraser features assure time-saving installation. Every Fraser L.P.G. unit is individually tested with

L.P.G. fuel under actual operating conditions before it leaves the plant . . . a sales and safety factor of the highest importance.

Fraser specializes exclusively on gas fired, warm air heating. Already one of the country's largest plants steadily increasing demand has recently doubled space. Prompt shipment now assured.

Write for illustrated data and specification sheet

H. R. BASFORD CO.
DISTRIBUTORS
SAN FRANCISCO - LOS ANGELES

FRASER
GAS HEATING EQUIPMENT

FRASER FURNACE CO.
MANUFACTURERS
STOCKTON, CALIFORNIA

Natural Gasoline Association Plans Active Year

Getting ready for an active year in its technical studies, the Natural Gasoline Association of America has just announced the committee lists and activities for the fiscal year of 1940-1941, according to William F. Lowe, secretary-treasurer of the Association.

In speaking of the research work planned for the year, George P. Bunn, Phillips Petroleum Co., president of the Association, stated that the agenda was so crowded with valuable but time-consuming projects that division of work among subcommittees will be required to conclude some projects before the annual convention next spring.

"Among the more interesting activities of the Technical Committee," said Mr. Bunn, "is that concerned with studies of low temperature fractional distillation apparatus and procedure. This project has been under way for some months as a coop-

erative study among 15 different laboratories. Preliminary studies involving the exchange and analysis of identical gas samples are nearly completed and the work of correlation of results is about to begin under the supervision of Dr. G. G. Brown, University of Michigan and Dr. Walter J. Podbielnik, Chicago. The object of the project is to eliminate all possible sources of error in present apparatus and to standardize procedure as far as possible. It will be some months before the final report will be completed and the committee will turn to a similar investigation of analysis of liquids."

◆ ◆

Petrolane Moves in Las Vegas

The Petrolane Gas Co. has moved its plant and office headquarters in Las Vegas, Nev., to a point on the Salt Lake highway across from the State highway buildings.

The former location was at the Paris auto court in North Las Vegas.



A. P. Tappan, vice president of The Tappan Stove Co., Mansfield, Ohio, is breaking ground for the new \$87,500 building expansion program to provide space for additional presses and increased shop and line assembly facilities. Witnesses: R. M. Lamb, superintendent; W. R. Mabee, assistant superintendent; John Hoff and Charles Mayer, development department, and Ray Hammer, advertising manager.

RANSOME PLUMBERS FURNACES



MODEL
P-5



MODEL
P-4

Shown above are the two latest additions to the Ransome Line of torches and burners. These two plumbers furnaces are built low, hard to upset; they are light in weight and inexpensive. Model P-4 is vertically fired, and Model P-5 fires horizontally, making it impossible for molten lead to clog the burner. Operate on Butane, Propane, Natural and Manufactured gases. Write for descriptive leaflets and prices.

We are prepared to design and install industrial butane standby plants, public service gas plants, as well as automotive and stationary engine conversions. Your inquiries are solicited.

RANSOME COMPANY

Manufacturers of Forster Torches and Burners

4030 HOLLIS STREET

EMERYVILLE, CALIF.

RANSOME

Eastern Section Drops Business to Play

WITH 113 LP Gas men, salesmen, representatives of manufacturers and guests in attendance, the annual Fall outing of the Eastern Section of the Liquefied Petroleum Gas Association was held Oct. 14 at Winchenden, Mass.

No business was transacted of an official nature, and the day was devoted to a program of recreation and sports, organized by the committee under the direction of W. L. Hauck, chairman.

Golf was the predominating order of business in the morning, followed by a get-together luncheon at noon. The afternoon was devoted to a soft ball game between salesmen and LP Gas men; a putting contest, and horseshoe pitching.

The selection of a New England location for the outing drew a large attendance from that section, many of whom became acquainted

with the personnel and program of the Association for the first time.

Plans are now being made for the annual Winter convention, which will probably be held during the month of January. This is traditionally a two-day business session at which plans are laid for the coming year's activities.



T. J. Strickler Is New President Of American Gas Association

T. J. Strickler, vice president and general manager, Kansas City Gas Co., Kansas City, Mo., was elected president of the American Gas Association at its annual convention in Atlantic City, N. J., beginning Oct. 7. Walter C. Beckjord, vice president and general manager, Columbia Gas and Electric Corp., Wilmington, Del., was the retiring president.

Other officers elected were: George F. Mitchell, first vice president; George S. Hawley, second vice president; and Ernest R. Acker, treasurer.

The spirit of contest dominated the day's games but no winners are recorded.



**DAY
AND
NIGHT**

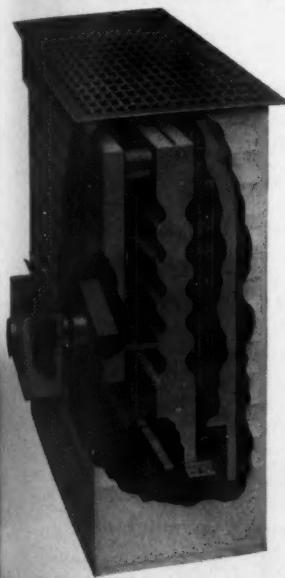
"HEATWAVE"

A Complete Line for the

L.P.G. INDUSTRY

"Day & Night" brings to the L.P.G. Industry a complete line of Space and Water Heaters designed "from the ground up" to meet the specific requirements of Liquefied Petroleum Gases. Only in "Day & Night" can you get the famous "Heat Trap" and other exclusive features which assure economy, efficiency and long life features which make "Heatwave" the outstanding value among L.P.G. appliances.

THE FLOOR FURNACE with the **HEAT TRAP**



MADE IN 4 SIZES

Easy to Install: "Heat Trap" Element and Circulating Sleeve are removable, leaving only light weight casing to place in opening.

Easy to Service: All parts are accessible from inside the house. Controls are located at top of furnace.

Easy to Operate: Conveniently located controls and removable Element and Sleeve make the "Heatwave" easy to operate and maintain.

CHOICE OF CONTROLS

1. Manual, with Dual Valve and 100% Thermo-magnetic Safety Pilot.

2. Fully Automatic, with Dual Valve, 100% Safety Pilot and Thermostat Control.

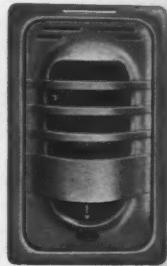
WRITE FOR SPECIFICATIONS AND PRICES

DAY & NIGHT Manufacturing CO.

MONROVIA, CALIFORNIA

Warehouse Stocks at Convenient Shipping Points

"HEATWAVE"
CONSOLE HEATER
3 Sizes



LECTRO-GLO
WALL HEATERS
2 Sizes



"HEATWAVE"
WATER HEATERS
3 Models

BUTANE *'Power'*

FILLING STATION DIRECTORY

- There is a rapidly increasing demand for information regarding locations of butane service stations throughout the country where trucks, tractors and other automotive units may buy fuel and obtain service.

Butane-Propane News is undertaking the compilation of a list of all such fuel depots so that individual and large company trucking operators and users of farm equipment which has been converted for use with liquefied petroleum gas may quickly determine where filling service may be had—either on short runs or on interstate or trans-continental trips. It is planned to publish this directory in the December issue, with frequent revisions thereafter.

There will be no charge for a listing in this directory.

It is important that owners of every station in the United States which dispenses LPG fuel, provides service or makes engine conversions, list its name and highway address and name of owner or manager with us at the earliest possible time.

Address *Butane-Propane News*, 1709 West 8th Street, Los Angeles, Calif.

Butane Makes Large Savings Over Electricity for Pumping

Stressing the economy of butane over electricity in a recent pumping job, Susumu Igauye, Los Angeles and Long Beach, Calif., LPG dealer, stated that the sum of \$281.40 was

saved in a 90-day period after changing over to butane from electricity.

A 30-hp. pumping unit was installed on a water well and the following figures were obtained as the result of the accurate check made after three months of operation:

Electricity	
1 horsepower hour consumes .746 Kws. per hour at a unit cost of .0117	\$ 0.00878
Operation cost of 30 horsepower motor per hour.....	.262
Operation cost of 30 horsepower motor for 12 hr. day.....	3.14
Operation cost of 30 horsepower motor for 90 days.....	282.60
Cost of service charge.....	150.00
TOTAL	\$432.60
Butane	
1 horsepower hour consumes .078 gal. butane per hour at unit cost of .06	\$ 0.00468
Operation cost of butane equipped motor per hour.....	.14
Operation cost of butane equipped motor for 12 hr. day.....	1.68
Operation cost of butane equipped motor for 90 days.....	151.20
AMOUNT SAVED	\$281.40



Standby Generating Plants Will Burn Butane

The Metropolitan Water District of Southern California has signed contracts with the Bardco Manufacturing and Sales Co., of Los Angeles, for five 75 kw. standby generating plants to be installed at five of their pumping stations along the aqueduct between the Colorado river and Los Angeles. The five units represent a cost in excess of \$45,000 and will go to their pumping stations at Intake, Gene, Iron Mountain, Eagle Mountain and Hay Field where they will act as standby power for groups of motors and lights.

The Bardco emergency standby generating plants will burn butane, and four of the units will generate current at 2400 volts and the fifth will be rated at 480 volts. Generators

to be furnished are built by the Master Electric Company. Each of the plants is equipped with special Bardco safety controls, alarm systems, voltage regulators and other Bardco equipment.



New Truck Will Serve Two California Stations

The Southwest Gas Corp., Ltd., has recently purchased a butane delivery truck equipped with pump and meter which will permit the company to sell to automotive equipment in its two locations in California.

One station is located at 320 Seventh St., in Victorville, and is managed by T. J. Hillman; the other is at 127 East Main St., in Barstow and its manager is J. K. Koeneman.

There is much heavy trucking done with butane-burning engines in the desert between the two towns named.



Butane Station Changes Hands In Lewistown, Montana

August Nelson and his sons, George and Dean, recently acquired the service station at Sixth and Broadway, Lewistown, Mont. They are distributors for butane as well as other products and allied lines. Howard Apple formerly operated the station.

A Ransome Co. tank truck serving automotive butane stations which carries a fire extinguisher for emergencies.

Skelly Oil Co. Enters Engine Fuel Field

Skelly Oil Co. has actively entered the engine fuel field, selling high octane liquefied petroleum gases under the name of Skellyfuel for use in heavy duty motors.

Bulk stocks are at present carried at Denver, Omaha, Des Moines, St. Louis, Chicago and Kansas City. The Chicago, St. Louis and Des Moines plants have just been completed. Five tank trucks, accommodating approximately 1000 gallons each, operate from these points. Each tank truck is equipped to run on Skellyfuel.



Ransome Co. Equips Trucks With Fire Extinguishers

Carrying out a policy of taking all possible precautions in handling liquefied petroleum gases, the Ransome Co., Emeryville, Calif., has equipped delivery tank trucks with hand fire extinguishers, standardizing on the dry compound type (Dugas).

As shown in the photograph on this page, the extinguisher is in easy reach of the driver. Ransome Co. has branch offices and distributors throughout California and tank trucks are serving these depots on regular schedules.



Butane Compared to Gasoline

I WISH to discuss briefly the liquefied petroleum gases which are extensively used in California and have proven economically advantageous to some extent in the Northwest. While composed principally of butane, these fuels contain minor percentages of both the lower and higher hydrocarbons of similar nature. Commercial butane as used in motor vehicles, for example, will have mixed with it from five to perhaps as much as 40% of propane. At ordinary temperatures butane (C_4H_{10}) is a gas which, however, is rather readily liquefied by pressure. The commercial liquid when confined in a tight container will develop a vapor pressure of 33 lbs. per sq. in. (gage) at $70^{\circ}\text{F}.$, 53 at $90^{\circ}\text{F}.$, 65 at $100^{\circ}\text{F}.$, 71 at $105^{\circ}\text{F}.$, and 110 lbs. per sq. in. at $130^{\circ}\text{F}.$ The presence of propane (C_3H_8) will increase these pressures for the reason that propane is more volatile.

Butane Lighter Than Gasoline

Commercial butane in the liquid form is considerably lighter than gasoline, having a specific gravity of 0.58 against an average value of about 0.70 for gasoline. The practical significance of this is that the number of pounds per gallon for butane will be about 4.84 against 5.85 for gasoline. Since the heat contents per pound for the two are not very different the number of heat units per gallon of butane is appreciably less than

● PROFESSOR S. H. GRAF, mechanical engineering department of Oregon State College, Corvallis, Ore., presented a paper before the August meeting of the Society of Automotive Engineers in Seattle entitled, "Fundamentals Pertaining to Internal Combustion Engine Fuels." The subject was discussed by Dr. Ulric B. Bray, consulting chemist of Los Angeles. Such portions of those two papers which referred to the use of butane for engine fuel, as compared to gasoline, and several influencing factors, are given in the accompanying extracts, those of Prof. Graf appearing first.—Editor.

that for gasoline, being about 102,400 B.t.u. for commercial butane against approximately 123,000 for gasoline. Obviously for the use of butane special tanks and carburetors are necessary as well as storage and servicing facilities. In use these liquid gases are found to give easy starting under all except perhaps extremely cold weather conditions and to be extremely flexible and smooth running. The exhaust is also less odorous. The octane number is high, permitting the use of higher compression ratios, and in fact this is necessary if mileages comparable with gasoline are to be obtained. There is, of course, entire freedom from crankcase dilution and vapor lock, as well as little or no corrosive action. . . .

Consideration of the characteristics of motor fuels would be incomplete and lacking in practical application without reference to

Here's the kind of Service an L.P.G. MOYNO PUMP delivers . . .



Here's an L.P.G. Moyno Pump that's delivering a 20 per cent butane and 80 per cent propane mixture into 50 to 60 one-hundred pound cylinders daily . . . without variation in capacity. And not one dime has been spent for maintenance since its installation on November 13, 1939. That's the service record reported by the Rural Natural Gas Co., Mt. Washington, Ohio. Investigate this safe, efficient, economical, and revolutionary new butane-propane pump for *your* particular needs. Write Dept. G today for detailed descriptive folder and prices.



ROBBINS & MYERS, Inc.

MOYNO PUMP DIVISION • SPRINGFIELD, OHIO

the chemistry of their combustion. The tractive resistance of a motor vehicle is composed of the mechanical friction which is practically constant at all speeds and the air resistance which varies almost as the square of the speed. The power required to overcome friction therefore varies directly as the speed and the greatly increased power necessary to drive vehicles at high speed is largely due to air resistance.

The Problem of Air Resistance

This fact has resulted in the increased attention to streamlining which we have observed during the past five or six years, although as a matter of fact the reduction of resistance due to such streamlining as is possible in automobiles is comparatively unimportant at average driving speeds of say 50 to 60 miles per hour. It is true, however, that the increase of average driving speeds from around 35 miles per hour to say 53 miles per hour calls for the expenditure of greatly increased power and yet in comparing present car mileages with those of 10 years ago we find little difference; in fact, probably on the average the number of miles per gallon of modern automobiles is greater. This was not brought about by any basic change in energy content of the fuel although, of course, the improvement in knock characteristics has made possible greater efficiency in engines. It is this together with general improvement in design, including weight reduction, and most important of all, greater attention to

mixture control, which has maintained our satisfactory mileage.

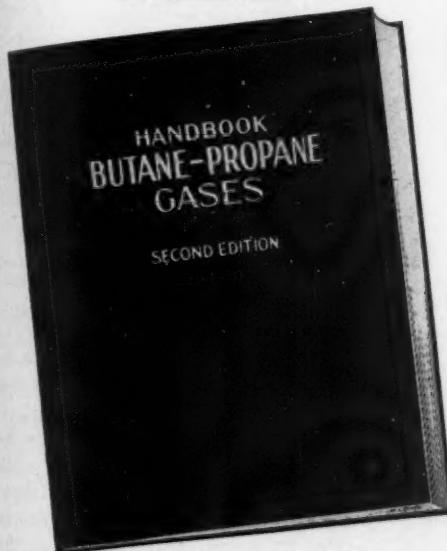
The motor fuels in general use consist principally of carbon and hydrogen with minor percentages of inert elements and impurities. When carbon burns with just the necessary amount of oxygen for complete combustion the product is carbon dioxide gas or CO₂; likewise when hydrogen burns under these conditions the product is water or H₂O. When air is used as the combustion supporting medium, the nitrogen passes through essentially unchanged. When carbon burns with a restricted supply of oxygen or air, the products of its combination with oxygen will be varying percentages of CO₂ and carbon monoxide or CO, and possibly even uncombined carbon or soot, depending on the amount of oxygen deficiency. On the other hand when hydrogen burns under these conditions there is no intermediate product of partial combustion and uncombined hydrogen will be found free in the products. . . .

Multiple Carburetor Jets

To make use of high economy at cruising speeds and to provide maximum power at lower speeds generally existing on hard pulls, and richer mixtures at low engine speeds at starting or when idling, carburetors are designed with multiple jets or other means through which a high air-fuel ratio will be attained at high cruising speeds with successively lower air-fuel ratios as the speed decreases; this automatically insures best economy under ordinary conditions and yet

Handbook BUTANE-PROPANE GASES

LATEST REVISION
NOVEMBER 1938



SECOND EDITION

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Gases: Analysis & Testing: Properties of Mixtures: Bottled Gas Distribution: Bibliography: Central Plant Directory: Catalog Section.

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SMITH METERS
GUARANTEED ACCURATE
THROUGH GREATEST
RANGE



Built expressly for metering liquefied petroleum gases, Smith Meters offer the efficient rotary principle combined with such quality features as 250 lbs. working pressure, built-in strainers, fast flow, minimum head loss and guaranteed sustained accuracy. Available in two models with horizontal or vertical dials, or horizontal Set Stop counter with or without ticket printer.

**SMITH BUTANE
DISPENSING UNIT**

Combines vapor eliminator with accurate measuring. Compact design eliminates extensive piping and rack construction. Write for Bulletin No. 123, illustrating and describing Smith Butane Meters.

SMITH METER COMPANY

5743 East Leneva Street

Los Angeles

California

provides the richer mixtures when needed under all circumstances.

Dr. Bray's Discussion

In the utilization of butane as an engine fuel, it has been pointed out that the calorific values of liquefied butane and ordinary gasoline of 102,000 and 123,000 B.t.u. respectively, per gallon, it should be borne in mind that these values are obtained in the laboratory calorimeter and do not necessarily correspond to the relative work producing ability of the two fuels in practical engines. The numerous reports claiming approximately equivalent mileage per gallon for butane operated equipment can not be ignored, and one is lead to speculate upon the reasons for a more favorable comparison in practice than might be estimated from consideration of only the respective calorimeter values of the two fuels. The two outstanding reasons for the favorable showing of butane are: First, the use of higher compression ratios permissible with butane, and second, better utilization of the available calorific values during the combustion stroke of the engine.

Improvements in thermodynamic efficiency with increased compression ratio are generally recognized, but it is interesting to consider for a moment the underlying causes of better combustion for butane. With a truly vaporized fuel such as butane, the distribution problem which is always present with the carbureted gasoline engine presents no difficulties, with the result that all cylinders can easily have the same mixture ratio instead of

some cylinders receiving excessively lean mixtures while others receive excessively rich mixtures as sometimes in the case of the carbureted gasoline engine.

Experiments with Both Fuels

Considerable work has been done to show that often the overall proper fuel air ratio as determined by the analysis of the exhaust gas passing the muffler is no proof that each cylinder is receiving the mixture indicated by this average analysis. Then again, it appears quite likely to the chemist that the smaller molecules of butane can be burned more completely while the piston is still at the top of the stroke than can the heavier and more complicated gasoline molecules. The process of combustion is actually one of union between oxygen and both carbon and hydrogen. It is not unreasonable to imagine a significant portion of the available gasoline molecules as completing the burning operation during the actual power stroke, and thus burning at reduced pressure and temperature, giving poorer thermodynamic efficiency.

At any rate, butane installations seem to be giving a favorable account of themselves wherever tried in strict comparison with gasoline engines.

From the standpoint of national defense or national emergency, butane offers the possibility of permitting other high octane fuels in the gasoline foiling range to be used for military purposes while butane can be used at home.



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BUTANE

AND

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A guaranteed supply from our plants in Texas, Louisiana, Oklahoma and Kansas.

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ANCHOR

PETROLEUM COMPANY

Atlas Life Building, Tulsa, Oklahoma

CLOW GASTEAM RADIATORS

combine

the SUPERIORITY of radiator heating
the FLEXIBILITY of individual heaters
the CONVENIENCE of butane gas



Bank at Morton, Miss.
(Midway between Jackson and Meridian)

CONSTRUCTION

Walls—13 in. brick, plastered
Floors—tile on concrete on earth
Lathed and plastered ceiling

SIZE OF BUILDING

Cubical content	16,800 cu. ft.
Floor space	1,400 sq. ft.

HEATING SYSTEM

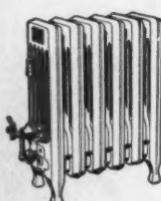
5 Clow Gasteam radiators.....497 sq. ft. steam

BUTANE CONSUMPTION

Season 1939-40...2859 degree days...1357 gallons

HEATING REQUIREMENTS

2151 degree days normal
Radiation sized for 0° F. outside temperature



Each radiator makes
its own steam heat
with gas.

No basement, boiler or
steam piping used.

For Heating a Single Room
or an Entire Building

JAMES B. CLOW & SONS

201-299 North Talman Avenue

Chicago, Ill.

How LPG Affects Engine Valves

THE new user of LPG in engines sometimes runs into valve trouble and wonders why. Any good set of valves is satisfactory for LPG service and normally will give much less trouble than encountered in using gasoline as fuel.

Before switching an engine over to LPG the valve port entrances should be checked and sludge and carbon removed to allow the maximum free area of entrance for the gas fuel.

Valve timing can be allowed to remain the same as for gasoline as well as the valve lift.

Normal expectancy of the period between valve regrinds should be 60,000 to 100,000 miles in heavy duty truck engines.

The cause of valve trouble can usually be traced to one misadjustment, namely, running on too lean a mixture.

The normal setting of a gasoline engine is rich, as indicated by the exhaust odors and the fact that nearly 50% more weight of fuel is required for the same work.

The LPG powered engine can be set so lean, in a misguided attempt to improve upon fuel consumption, that the actual condition of combustion is one with excess air. The hot exhaust gases containing air or free oxygen literally burn out the exhaust valves and seats.

This same condition can be found

in gasoline operation, but usually there is such a great loss of power that the condition is remedied before damage incurs.

The cure for this type of valve trouble is to set the gas-air mixture slightly on the rich side which will increase the power and performance and result in practically the same fuel economy.



Los Angeles Trucking Firm Would Operate in Arizona

The Arizona Corporation Commission has held a hearing on the application of the C. F. Butane Tank Lines, of Los Angeles to operate, in Arizona.

According to Fred D. Binkley, Washington, D. C., examiner for the Interstate Commerce Commission, and who conducted the inquiry, the company, operated by Catherine E. Folldore, asked permission to haul between Kingman and Holbrook, Wickensburg and Ash Fork, Prescott and Flagstaff, Phoenix and Duncan, and Tucson and Douglas, all in Arizona.



Butane Gas May Reveal Hidden Oil Deposits

Herbert Hoover, Jr., son of the former President of the United States, recently appeared in New York to describe a modern "divining rod" invented by him to discover pools of oil as deep as 10,000 ft. below the earth's surface.

By adapting the mass spectograph, a scientific instrument heretofore used only in research laboratories, newspaper reports say that Mr. Hoover has made it commercially practicable to analyze gases in subsurface soils and that such gases as butane reveal hidden oil deposits.

200,000 PROSPECTS for LIQUEFIED PETROLEUM GAS!



Yes sir, 200,000 prospects in one field alone . . . poultry brooding! At least that many poultrymen are ready to buy liquefied petroleum gas once they have tried it with the A. R. WOOD "Radiant" GAS BROODER. The WOOD Brooder is built specially for this fuel, which has proven safe, economical, dependable, and clean.

Write For Folder

A. R. WOOD MFG. CO.

Santa Cruz, Calif.

Luverne, Minn.

LOOK AT IT THIS WAY



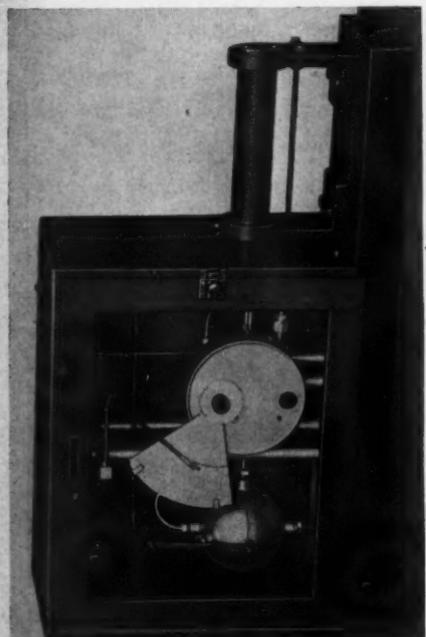
NO STUFFING BOXES, Friction, Wear, or Leakage

eliminate the need for further care or adjustment after the instrument is installed. Permanent responsiveness to minute variations in specific gravity is assured.

ANUBIS LIQUID GRAVITOMETERS

INDICATING OR RECORDING TYPES,
WITH OR WITHOUT FULL TEMPERATURE COMPENSATION

SEND FOR DETAILED BULLETIN
AMERICAN RECORDING CHART CO.
3113 EAST 11TH STREET, LOS ANGELES, CALIFORNIA



By-Laws in the Making for Arkansas Association

The drafting of by-laws and a constitution for the newly formed Arkansas Liquefied Petroleum Gas Dealers Association is now under way by the committee which was appointed at the September meeting by President H. P. Riley. This committee consists of B. T. Harris, T. T. Burgess and S. N. Bolton, all of Little Rock, Ark. It will confer frequently with J. D. Newcomb, Jr., chief boiler inspector of the State, so that existing laws and policies concerning LPG may be followed.

The officers of the association, in addition to President Riley, are R. C. Weis and C. C. Fricks, vice presidents; and Mrs. Roy Mitchell, secretary. The board of directors is composed of W. H. Taylor, Mena; R. C. Weis, Wheatley; T. T. Burgess, Little Rock; George Jensen, Hazen; Cy Carney, Fayetteville; Leonard Warden, Memphis; H. P. Riley, Pine Bluff; C. C. Fricks, Texarkana, and C. N. Kent, Harrison.

A photograph of members of the Association is shown on page 38.



Skelgas Plants Now Located in 16 Places

New Skelgas plants have just been completed at Indianapolis and La Crosse, Wis., bringing the total number operated by the company to 16. Warehouse facilities where appliances can be shown and cylinders stored are located at each place.

The plants of the company are located at Denver; Kansas City; El Dorado, Kansas; Lyman, Okla.; Omaha; Des Moines; La Crosse; Fond du Lac, Wis.; Pipestone, Minn.; Indianapolis; St. Louis; Moline, Ill.; Skellytown, Texas, and Chicago.

Reno, Nev., Passes Two New Butane Ordinances

Two ordinances were recently passed by the city council at Reno, Nev., to regulate the transportation and storage of liquefied petroleum gases. The ordinances provide for the installation of storage tanks not less than 35 feet from any building and that the tops of the tanks be at least four feet below the ground.

Participating in the discussions with the council were Charles Merrill and Carl Golden, representatives for the local gas companies, Jack Joell, manager of the Ransome Co. of Nevada, and George Twaddle, fire chief in Reno.

The local dealers argued that a minimum distance of 35 feet would prohibit the use of butane to property owners with 50-foot lots and asked for a 25-foot minimum. They introduced the fact that the National Board of Fire Underwriters' suggests a minimum distance of 10 feet and a minimum of three feet below the ground for tanks.

These ordinances do not apply to containers fulfilling Interstate Commerce Commission specifications concerning bottles. Bottles may still be used for storing gases instead of underground tanks, and thus utilize small building lots.

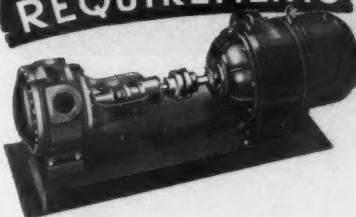


Brant Maynard Joins Rulane Gas Co.

Brant Maynard, formerly vice president of the Druid Butane Gas Co., Tuscaloosa, Ala., is now connected with the Rulane Gas Co., Charlotte, N. C.

He states that the Rulane company is now specializing in propane underground systems for house heating, a field that is growing rapidly in that part of the country.

SUCCESSFULLY
MEETS DIFFICULT
Smith
PUMPING
REQUIREMENTS



Because of the complete satisfaction they give, it is important that every pumping operator thoroughly investigate Smith Butane-Propane Pumps and their application to his own individual conditions and requirements.

New and radically different features exclusive in Smith Pumps make them the choice of leading LPG engineers. They eliminate such difficult problems as packing box leaks, inadequate differential pressures, excessive wear and loss of efficiency.

Pumps for All Services

Bulk Plants, Dispensing, Bottle Filling,
Tank Trucks, Refineries, Pipe Lines, Etc.

Write for Complete Descriptive Information

SMITH PRECISION PRODUCTS CO.

1135 Mission St., South Pasadena, California

SMITH
BUTANE - PROPANE
PUMPS



NO GUESSWORK

*about PAYNE
L.P.G. Furnaces*

Here's Why:

INDIVIDUAL TESTING: The PAYNE Testing Laboratory tests every Butane-Propane-fired PAYNE unit for *your* protection as well as ours.

CUSTOM-ADJUSTED: Factory engineers pre-adjust PAYNE L.P.G. Furnaces to the B.t.u. heat value and specific gravity of mixture.

TIME-PROVEN: For more than twelve years, PAYNE has been successfully manufacturing L.P.G. equipment; over twenty-five years in business.

PAYNE Dealerships are open in several L.P.G. territories. Write J. H. Keber, Sales Mgr.



- Modern Consoles
- Floor Furnaces
- Duplex Furnaces
- Zoneair Units
- Forced Air Units
- Gravity Furnaces

PAYNEHEAT
Payne FURNACE & SUPPLY CO., INC.
BEVERLY HILLS • CALIFORNIA

Oklahoma Commission Insists On A.G.A. Appliance Approval

The Oklahoma Corporation Commission, through Floyd Green, assistant attorney of the oil and gas conservation department of that organization, has notified LPG and gas appliance dealers that, beginning Oct. 15, only such gas appliances as comply with the LPG regulations of the Commission may be installed.

After that date Rule 6 of the liquefied petroleum gas regulations, adopted last May 15, will now be strictly enforced. This requires that



Floyd Green, in charge of LPG safety regulations for Oklahoma's Corporation Commission.

all domestic appliances which are installed must have been approved by the American Gas Association testing laboratories for use with LP gas. This means an end to conversion of natural gas or other stoves, to LPG burners, after Oct. 15.

Mr Green states that the Commission has heretofore exercised its discretion to make exceptions to the

rule. But now, he says, about 21 types of appliances are being manufactured which are especially designed for use with liquefied petroleum gas and which have the approval of the A.G.A. laboratories. The Commission considers conversion of natural gas or other appliances for LPG fuel use to be unsafe, but for a time permitted deviation from the rule until it became easier to secure specially approved LPG appliances.



Bastian-Blessing Co. Extends Facilities to National Gas Co.

An arrangement has been entered into between the National Cylinder Gas Co. and The Bastian-Blessing Co., both of Chicago, which becomes effective at once, whereby the former will use the facilities of The Bastian-Blessing Co. and engage in the production of a complete line of gas welding and cutting equipment under the Rego trade mark.

The arrangement perpetuates the activities of the Rego distributor organization, making available not only through such distributors but also through National district sales offices in all principal cities, according to Ellsworth L. Mills, vice president of The Bastian-Blessing Co.



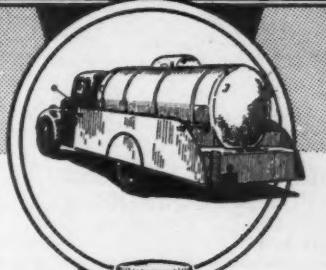
Onigas Co. Will Operate in Rhinelander, Wis.

Articles of incorporation have been filed in the State capitol at Madison for the Onigas Co., of Rhinelander, Wis. The incorporators are J. S. Daniels, Ernest Graheim and F. K. Campbell.

Two hundred fifty shares of common stock will be issued at a par value of \$100 per share. The company plans to engage in the distribution of liquefied petroleum gas.

LOOK TO THE Leader FOR BETTER TANK values.

BUTANE-PROPANE . . .
★ UNDERGROUND TANKS
★ BULK STORAGE TANKS
★ TRUCK TANKS
★ SKID TANKS



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CODE
BUILT

UNDER-
WRITERS'
APPROVED

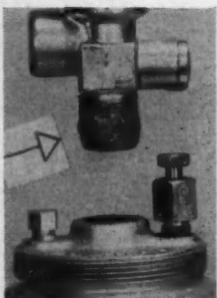


ECONOMY BUTANE-PROPANE SYSTEMS are constructed for 100.8 lb., 125 lb., and 175 lb. working pressure for underground use; 200 lb. working pressure for above ground. Approved by Underwriters' Laboratories; inspected by Ocean Accident & Guarantee Corp., Ltd.

Write, Phone or Wire for Details
"Tanks By Banks"

DALLAS TANK AND WELDING CO., INC.
201-5 West Commerce Street
DALLAS, TEXAS

Stop That Leak!



Bu-Seal

Here, at last, is a sealing compound that will seal tank and cylinder valves for LPG use. Bu-Seal sets without permanent hardening; valves once set, may be removed (without damage).

Send For Sample

Prove to yourself that Bu-Seal will end your tank-fitting problems. There is no substitute for safe cylinder fittings.

ELECTRIC AND CARBURETOR ENGINEERING CO.

"Pioneers of the Butane Industry"

2223 E. 8TH ST. LOS ANGELES



LYLE C. HARVEY

Lyle C. Harvey Elected Director Of Dresser Manufacturing Co.

Lyle C. Harvey, president and general manager, The Bryant Heater Co., Cleveland, Ohio, has been elected to the board of directors of Dresser Manufacturing Co., Bradford, Pa., according to a recent announcement by H. N. Mallon, president.

Mr. Harvey, identified with the gas industry for the past two decades, particularly in the gas-appliance field, is responsible for many innovations in the merchandising of gas-heating and air-conditioning appliances. He became head of The Bryant Heater Co., a wholly owned subsidiary of Dresser Manufacturing Co., on March 22, 1938, after serving as vice president from June, 1933, the date of Bryant's acquisition.



Handigas Co. Opens Third Office in Ohio

The third Van Cloud Handigas service store was opened Oct. 3 at 256 W. Main st., Ravenna, Ohio, according to Ralph Van Cloud, general manager of the company.

Coy Merts is manager of the new store and H. B. Stanton is in charge of Portage county.

A complete line of appliances is on sale at the new store and 24-hour service will be given. Appliances are carried for both Handigas and the East Ohio Gas Co. Headquarters of Van Cloud service is Newton Falls.

The CARTER OIL COMPANY

Tulsa, Oklahoma

Manufacturers and Suppliers

of dehydrated

PROPANE and BUTANE

for the distributing and industrial trade. Shipping points: Seminole, Oklahoma; Stonewall, Oklahoma, and St. Elmo, Illinois.



Address inquiries to:

Marketing Department

Room 928, National Bank
of Tulsa Building

Tulsa, Oklahoma

California Group Working On New Safety Orders

At a meeting held in Fresno, Calif., Oct. 1-3, and presided over by C. H. Fry, F. A. Page and J. W. Gibbs of the Industrial Accident Commission and attended by a representative group of members of the LPG industry, tank builders, fire departments, equipment suppliers, engineers and others interested in the application of the State Safety Orders, the proposed revisions of the liquefied petroleum gas Safety Orders were studied and discussed.

The result of the meeting was to pattern the new California orders after the form of the new pamphlet No. 58 of the N.B.F.U., as closely as possible, making such changes and additions as are desirable for California operations.

Each section of pamphlet No. 58 was discussed and compared with the present safety orders and proposed revisions that had been suggested.

The consolidation of the work done at Fresno is being done by the Industrial Accident Commission and will be put into mimeograph form for further consideration at the next meeting, the date and location of which have not as yet been announced.



National Butane Gas Co. Has Personnel Changes

T. G. Tackett, general manager, National Butane Gas Co., Memphis, Tenn., recently announced several changes in the executive offices of the company. E. H. Gill, formerly vice president, is no longer connected with the organization and present officers now are: J. T. Gregory, president; T. G. Tackett, vice president and general manager; and Charles H. Hudson, Jr., secretary and treasurer.

There Is No Substitute For Safety!



METALBESTOS

is a product of many years of scientific development by engineers who know every venting problem. In METALBESTOS they have constructed a vent pipe that meets every requirement for safety and performance on every installation. Insure customer satisfaction by using vent pipe that is *built to last*.

Write for complete information.



METALBESTOS pipe is supplied in 3 ft. and 10 ft. lengths . . . round and oval shaped . . . Complete line of fittings.

Williams-Wallace Co.
160 Hooper St., San Francisco, Calif.

FOR
Engineering Service
Butane - Propane
Gas & Equipment

Hydro-Gas Systems

Conventional Type Butane Gas Systems

**Truck Tanks—Plain, Semi-Streamlined
and Full Streamlined
Scaife I. C. C. Cylinders
Butane-Propane Hose
Liquid Meters
Ever-Tite Couplings**

Write!

SOUTHERN GAS & EQUIPMENT CO.

Serving Arkansas, Louisiana, Missouri
and the Southeast

The BUTANE CONVERTER

*That's
Outstandingly
Superior*



The Dickson Butane Carburetor, unlike ordinary converters, is a compactly designed, trouble-free unit—completely self-contained. By means of Dickson's "unique" vaporizing principle—Butane is efficiently converted from its liquid to a fully dry gaseified state.

**For Converting
Gasoline-Operated
TRUCKS
TRACTORS
BUSES &
POWER UNITS**

**WRITE TODAY
FOR
FULL DETAILS**

DICKSON
BUTANE CARBURETOR
To Butane
WRITE TODAY
FOR
FULL DETAILS

"The Superior Converter for a Super-Fan"

Manufactured & Distributed by PENINSULA BURNER & OIL CO.
1739 Leslie Street, San Mateo, California

The Whys of the Safety Code

THIS is the fifth installment of explanations of the objectives which prompted the writing of the National safety code by the N. B. F. U., as contained in Pamphlet No. 58. Others appeared in the May, July, September and October issues, and more will follow later. Those desiring more specific information may write to our Research Department.

Continuing with Division 1, we come to Section 10:

10. Dikes and Embankments—Are dikes needed?

It is good practice to enclose gasoline and other oil tanks within dikes, or retaining walls, to take care of spill-overs and spread of liquid in case of breakage, or boil-overs in fires.

The inherent type of construction of LPG containers and the nature of the product in most instances makes the use of dikes or retaining walls unnecessary and in some cases undesirable.

LPG tanks should be in the open wherever possible without interference of good air circulation around the tank area.

11. Protection of Tank Accessories— Grounding.

(a) What is proper accessory protection?

Protection of accessories, valves,

etc., is necessary where tanks and connections are located where they are accessible to the public or children. The amount of protection and type will vary with the location. Some methods of protection are hoods, cabinets and similar devices. The use of devices that are locked is a mute question. In some cases locks are undesirable, particularly if there is no additional shut-off valve accessible between the container and the entrance to a building, as it might be desirable to shut off gas service in an emergency.

Why are domes or housings needed on underground containers?

A means of protecting the extruding piping and regulators from the damage due to corrosion and settling is necessary. Most underground installations are designed with some satisfactory types of protection.

(b) *Why is grounding necessary?*

The practice of grounding containers is a carry-over from gasoline handling. There is considerable debate among technicians as to the value of grounding. It is felt, however, that it does no harm and the cost is relatively nil, and until definite data has been produced to prove that it is not necessary, it is good practice to continue grounding containers.

12. *Pipe Valves and Fittings.*

What is good practice for LPG piping?

The standards suggested are minimum requirements and for some types of service much better

Supreme VALUE!

No Range offers so much quality, so many improvements, such outstanding value. New streamline construction . . . heavy insulation . . . rust-resisting Black-Beauty steel finish . . . Harper-Onica Speed burners . . . flash lighters . . . Robertshaw controls . . . Harper valves . . . 20" ovens . . . radiant ceramic broiler and griddle.

These features have never before been offered in this price class. The South Bend Franchise is a profitmaker. You don't play second fiddle or offer a "just as good" article. You sell the South Bend with your head high—you know

it is the best, the latest, the finest value—and your customers know it too. Write for catalog of ranges, griddles, broilers, hot plates, ovens, etc.



Streamline No. 262



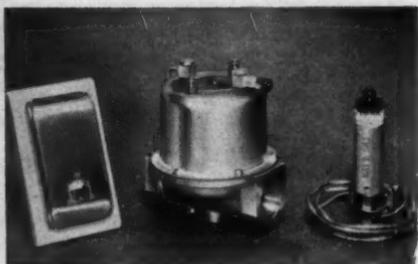
Combination 239-G

SOUTH BEND COMBINATION

South Bend two-oven combination coal and gas range— incomparably fine in quality and performance.

**Malleable Steel Range Mfg. Co.,
South Bend, Indiana**

SOUTH BEND Ranges



ALL-GAS CONTROL SET NO ELECTRICITY NEEDED

Ideal for butane-proppane service. Pilot generator supplies all current needed for operation; no external current needed. Absolutely quiet operation. Pilot light failure safely shuts off gas valve. Attractive new flush type surface-mounting thermostats. Package set furnished complete with pilot generator, B-60 series gas valve, T-80 series thermostat, and 40 feet of wire; everything you need for safe accurate remote gas control service.

Send for 1940 Complete Catalog

GENERAL CONTROLS
267 5th Avenue
New York City



450 E. Ohio St.
Chicago, Ill.

WARREN PROPANE

— is —

Now made available to new markets with the completion of a large fleet of propane tank cars to supplement our present adequate butane equipment.

*

Warren's dependable source of supply and complete facilities assure its customers prompt and efficient service.

WHOLESALEERS ONLY

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PETROLEUM CORPORATION
TULSA, OKLAHOMA

P. O. Box 1589

L. D. 321

construction is recommended.

For gas (vapor) piping downstream of the low pressure regulator, such as house piping, standard gas piping practice is satisfactory with one extra thing to keep in mind. LPG vapors are harder to hold tight than city gas or natural gas and all screwed joints should be carefully made, using a good thread sealing compound, and under no circumstances should elbows be used to take up expansion. All house piping should be tested with air at not less than 25 lbs. per sq. in. before gas is allowed in the system.

This is the practice used by most utilities before hooking up a house to their mains and has prevented many possible serious fires due to uncapped lines or leaky fittings and valve outlets.

From the tanks to the regulator the piping should be of ample strength to safely withstand the maximum safety valve setting pressure of the tank and be laid in a manner so that no strains are introduced into valves or fittings.

Where liquid LPG is handled the design of piping and fittings requires still more care. Good practice is to weld all joints where possible and use extra heavy valves and fittings.

Valves designed for LPG service should be used exclusively. Many types of valves in common use in water and gas service are not satisfactory for LPG.

13. Hose and Hose Connections.

What care is needed in selecting hose?

LPG is an ideal solvent. When a hose is selected it should be ascertained that it has been especially built for LPG service and so marked. Besides the pressure requirements it must have a lining that is resistant to the solvent action of LPG.

The hose is no stronger than its couplings and they should be of the positive type and the hose tested after the installation of couplings.

Hose deteriorates with use and handling, and periodic checks should be made to obviate a possible hose failure.

Provision should always be made to relieve the possible built-up pressure on a hose if it is valved at both ends.



Jack Dale Acquires Butane Held in Minneapolis

There was a division meeting in September in Minneapolis called by the Skelgas Co. for dealers in Minnesota, Wisconsin, North and South Dakota.

All newest appliances were on display with greatest stress laid on new-type combination ranges. Industrial uses of Skelgas were illustrated in many demonstrations given during the meeting.



Jack Dale Acquires Butane Business in Atoka, Okla.

Jack Dale recently acquired the Butane Gas Co., Atoka, Okla., and the equipment, from Jap Surrell. Young Ralls will assist in giving 24-hour service in Atoka, Coal and Pushmataha counties. Mr. Dale was formerly the express agent at Mistletoe.

FISHER TYPE 712 REGULATOR

Your Logical
Choice For
SINGLE DRUM
APPLIC ATIONS



Incorporates one of the finest engineering designs ever offered the liquid petroleum gas industry. Powerful leverage with sensitive diaphragm and spring assures accurate regulation.

ALLOY DIE CAST BODY . . . BUILT-IN
RELIEF VALVE — CAPACITY 25 CU. FT.
PER HOUR OR MORE — VARIOUS INLET
CONNECTIONS AVAILABLE—NO MOUNT-
ING BRACKET REQUIRED.

Write today for full details and prices!

FISHER
GOVERNOR COMPANY
918 FISHER BLDG., MARSHALLTOWN, IOWA

PRODUCTS



Vapor Meter

Pittsburgh Equitable Meter Co., 400 N. Lexington Ave., Pittsburgh, Pa.

Model: EMCO Butane-Propane Meter.

Description: A new meter, especially developed for the measurement of liquefied petroleum gases. It has a cast iron outer case to assure complete safety in the measurement of these highly volatile vapors. There are only two relatively short sealing surfaces in this design. By the use of surface grinding, a specially developed gasket and many large diameter screws, complete and permanent sealing is provided. The index housing is within the

meter cover. A new development in solderable, thick, high strength glass provides a complete seal and eliminates the necessity of having a stuffing box to seal the index shaft. A thoroughly lubricated and rigidly supported drive shaft is mounted with its drive gear in an integrally designed movement box. This construction also provides a lubricated seal which prevents escape of gas should the index glass be accidentally broken. Optional diaphragms and diaphragm treatments are available. Indexes reading in therms, deci-therms, gallons, pounds or equivalent cubic feet are available for specification by the purchaser. Special connections to fit the needs of the LPG industry are provided optionally at the side or top of the cover. Copies of a bulletin describing this meter in detail can be obtained by addressing the manufacturer.

◆ ◆

Domestic Range

The Tappan Stove Co., Mansfield, Ohio.

Model: WV-29.

Description: This stove is equipped with the "Visualite" oven; glass in oven door; oven is extra large, 18 in. wide and 15 in. high, with five



rack positions. The culinaide at top has the new "Visiguide," timer, and condiment jars. Two dual giant burners. Ball bearing broiler drawer with "CleanQuick" chromium broiler grill. Choice of black or red hardware. Flush-to-wall. Size: 42 x 25½ x 49-in. The Visiguide has more than 100 separate items on a disc. As you spin the disc a vertical red line serves as a running index guide to the item you want.

◆ ◆

Fog Nozzle

Western Fire Protection, Inc., 611 E. 3rd St., Los Angeles, Calif.

Model M.R.

Description: This water fog nozzle is made for generating and applying large volumes of fog and is particularly adapted for control of fires when vapor or liquid is under pressure by enabling confinement until it is possible to shut off fuel supply. It is also used for protection of exposures and to enable men to reach control valves. Installed in piped system or used on the end of a bent section of applicator as a portable unit. Operating pressures and water consumption can be adapted to local conditions. Other models, covering a wide range of operating characteristics, are also available.



Mileage Meter

Electric and Carburetor Engineering Co., 2323 E. 8th St., Los Angeles, Calif.

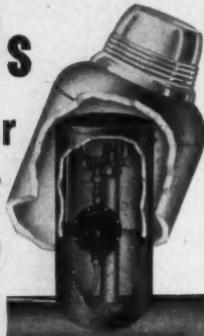
Model: No. 91-G.

Description: A special 2½-in. back-connected negative pressure intake manifold meter which, if operated properly, will enable butane fueled



vehicles to get at least 10% better mileage. This gage, or meter, is calibrated in inches of vacuum showing a maximum of 27 in. Due to the extremely high anti-knock value of butane fuel the throttle plate position for a given load (usually flat on the floor) is much greater than when using gasoline. Under such operating conditions the intake manifold usually drops down to less than 2 in. of vacuum, thus stratifying the carburetor and manifold which in turn lugs the engine; produces poor mileage, and creates excessive loads on engine bearings. This butane mileage meter is constructed so driver can tell instantly whether or not the engine is being driven at maximum efficiency.

Here's the answer to Winter Freeze-up Problems



PIONEER INSULATED HEAD

with proper size tank to adequately handle the maximum winter load of all connected appliances. Pioneer insulation prevents head freezing . . . reduces costly service calls . . . increases customer satisfaction. All Pioneer Plants conform to the ASME code. Write for details of the easy-to-sell, 5-year guaranteed Pioneer Line.

**EWING BUTANE GAS CO.
DALLAS, TEXAS**

McNAMAR

**Truck Tanks
Transports
Skid Tanks
Storage Tanks
Underground
Systems**

All tanks inspected by Ocean Accident & Guarantee Corp., Ltd.

We fabricate to your individual requirements.

McNAMAR

BOILER & TANK CO.

TULSA, OKLA.

SALEM, ILL.

C.N.G.A. Will Hold Annual Fall Meeting Nov. 1

The 15th annual fall all-day technical meeting of the California Natural Gasoline Association will be held Nov. 1, at the Ambassador Hotel, Los Angeles, according to a joint announcement from L. V. Cassaday, association president, J. B. Taylor, program and Fall meeting chairman and H. E. Leedy, chairman of the entertainment committee.

The three sessions—morning, afternoon, and evening—will be climaxed by the Association's annual banquet and vaudeville show in the evening.

Some of the speakers are: L. V. Cassaday, president C.N.G.A.; M. W. Kibre, General Petroleum Corp.; D. A. Smith, Tide Water Associated Oil Co.; Francis Laird, The Texas Co.; C. B. Heartwell, Standard Oil Co. of Calif.; Henry N. Wade, Parkhill-Wade; S. H. McAllister, Shell Development Co.; and C. E. McCartney, Petrolane, Ltd.

Mr. McCartney's paper is entitled, "Commercial Butanes, A Waste Material, Becomes A Valuable Product."

◆ ◆

Thompson Butane Enters Display at County Fair

The Thompson Butane Co., Madera, Calif., recently displayed appliances and equipment for butane gas among the commercial exhibits at the Madera county fair.

The exhibit was in the newly built permanent exhibit building.

◆ ◆

Bupane Gas Co. Expands Field

C. C. Morgan, territorial representative of the Bupane Gas Co. for the State of Missouri, has lately been assigned the State of Nebraska, also. He will handle both districts from his Cameron, Mo., headquarters.

COOK the *Anderson* WAY... with the GAS TURNED OFF!

**SELL the Anderson way
for GREATER PROFIT!**

Here's the gas range that gives you an entirely different selling approach that SELLS! The Anderson WAY builds far greater profits for you and gives your customers lasting satisfaction. Here's the range that SELLS—backed by a NEW WAY to SELL that gets results . . . consisting of floor and window displays, newspaper advertising and direct mail based on the Anderson WAY of cooking with the gas turned off!

WRITE! today and let us prove that the Anderson WAY SELLS!

Anderson Stove Co., Inc.
ANDERSON, INDIANA



LIGHT!

New BUTANE-PROPANE Profit Source



Now you can add greater lighting profits to your source of revenue. One test of the glare-free glow of these new Humphrey Opalite Junior models—one glance at the beauty of the modern designs—and most Butane-Propane users are ready for an installation.

JUNIOR OPALITE MODEL The Junior Opalite Model at the left has an input rating of 2500 B.T.U. per hour. The Pendant Fixture with two globes has a rating of 5000 B.T.U. an hour.

Write today for full information about the complete line of Humphrey appliances for Butane-Propane gas.

JUNIOR
OPALITE
PENDANT
FIXTURE



GENERAL GAS LIGHT CO., Kalamazoo, Mich.

VAPOR PRESSURE



BOMB

for

Liquefied

Petroleum

Gas

Write

For complete description
of Liquefied Petroleum
Gas testing apparatus
conforming to N.G.A.A.
specifications.

The Refinery Supply Co.

621 East 4th St.
Tulsa, Okla.

1309 Capitol Ave.
Houston, Texas

ROYAL ROSE RANGES



WHOLESALEERS

Sell Royal Rose Ranges to build up
your load. Reasonably priced, properly
designed, sturdily constructed.

Franchises Open

J. ROSE & CO., INC.

25 West 29th St., New York, N. Y.

Established 1885

Live Prospects Come From Users

FRED E. KUNKEL

WITH three bulk plants, nine delivery trucks, operating in three divisions with four salesmen, at Cleveland, Miss., Sardis, Miss., and headquarters at Memphis, Tenn., W. G. Petty & Son are pioneers in the butane gas business in the South, east of the Mississippi River. They sold gas when they had to haul it from Louisiana and in five years have grown into three 18,000-gal. bulk plants with more than 800 installations to their credit. Their slogan is "Petty's Butane Gas Starts Where the City Gas Line Ends."

Signs on Cars Are Good

Salesmen work on straight salary and commission. The firm furnishes the car and pays the expense. "The best advertising mediums we find are big signs painted on the doors of my cars, which I consider one of the best methods of getting established before the public," explained W. G. Petty. "Of course, we have obtained some direct results from advertising in high school and church papers, etc., in rural districts.

"We run an ad every week in the local papers, and on a six months' contract the newspaper gives us a picture and a write-up twice during that time. We obtain a reprint

of the page in which this appears and send it to our entire mailing list of prospects. We have found that very helpful in attracting the attention of new prospects when they read the paper. In fact, we can trace four direct sales from one recent ad.

"One biggest asset has been to use satisfied users, who show their plants to neighbors, relatives and friends and talk them up. We pay \$10 to any of these who give us a lead which results in the sale of a plant. One man alone got us 18 prospects in the last six months. My son and I close practically 95% of the sales. We sold 302 plants last year, alone, and for 1940 our average is well ahead of 1939."

"Our business has been managed with relatives. My son and I are in charge of the business; my niece is in charge of the office, and I have two brothers who take care of all installations. I find a family affair much better than hiring strangers."



Northwest Cities Gas Co. Installs Bulk Plant in Walla Walla, Wash.

Permission was granted Oct. 2 by the Walla Walla, Wash., City Commission to the Northwest Cities Gas Co. to install a 15,000-gal. butane gas tank on railroad-owned property in Walla Walla. According to news reports, the tank will serve the nearby plant of the Continental Can Co., which will be heated by butane gas.

John F. Watson, acting city attorney, and Carl Gregory, assistant chief of the fire department, inspected the site of the proposed butane tank with members of the city commission before giving the permit.

COMPLETE FACILITIES

BUTANE or PROPANE

Vitally important to every retail marketer of these products, is a dependable and reliable source of supply. Such assurance is yours when you buy Philgas Butane or Propane. Without qualification, Philgas has the most complete production, storage and shipping facilities in the industry. Philgas service gives you high-quality products produced according to rigid specifications plus deliveries when, where, and as you want them.

Philgas
DEPARTMENT

PHILLIPS PETROLEUM COMPANY
GENERAL MOTORS BUILDING
DETROIT, MICHIGAN

NEW YORK

PHILADELPHIA

CHICAGO

MILWAUKEE

ST. LOUIS

AMARILLO

BARTLESVILLE, OKLA.

THE NATION'S LARGEST MARKETER
OF LIQUEFIED PETROLEUM GASES

RESEARCH

- **BUTANE-PROPANE News** wishes to keep its readers informed regarding technical and practical advances concerning research, manufacture, development, and transportation in the liquefied petroleum gas field. In this column will be found a resume of recently published articles, papers, bulletins and books dealing with the industry's various phases.—Editor.

Propane Cooling of Absorption Oil Used at New Jal Gasoline Plant—D. H. Stormont. *Oil and Gas Journal*, Aug. 29, 1940, pp. 30, etc. Using propane subcooling to lower temperature of the lean absorption oil to 45°F., a new natural-gasoline plant owned by the El Paso Natural Gas Co.-Phillips Petroleum Co. at Jal, N. M., is recovering 65% of the raw-gas butane content. An analysis of the composite gas at the inlet of the plant is given, as is an analysis of the finished product. Flow sheet of the plant is shown.

Superior Making Isobutane at Kettleman Absorption Plant—L. P. Stockman. *Oil and Gas Journal*, Aug. 15, 1940, pp. 50, etc. Superior Oil Co., one of California's largest independent oil producers, recently completed modernizing its Kettleman Hills gasoline absorption plant which was originally installed and placed in operation during October, 1930. This original conventionally designed gasoline plant produced principally only that vapor-pressure gasoline demanded to meet sales requirements and such butane-propene mixture possible to

produce in excess of the butane necessary for the gasoline specifications, of which there was little or no excess during warm weather. This company, in modernizing the Kettleman Hills absorption plant, installed the first commercial isobutane unit in connection with such a plant. This plan involved several engineering features common to the oil industry, but not generally used in the natural-gasoline industry. These features are listed, as are operating conditions and yields. Flow sheet of the plant is shown.

Butane Used as Penetrant in Acidizing Kansas Completion—*Oil Weekly*, Aug. 19, 1940, p. 46. A Kansas wildcat, finding low gravity, highly viscous crude in Arbuckle lime was acidized successfully by introducing butane into the formation as a cutting agent to precede acid treatment of the formation.

Distillate Fields Bring New Production Phase—Brade Mills, *Oil Weekly*, July 29, 1940, pp. 53, etc. Recycling—Part 1. This article forms part of a series of discussions comprising a symposium of various recycling methods with data on typical plants including descriptions, flow charts and photographs. Part 2, Aug. 5—Descriptions are given of several recycling plants employing straight separation method. Part 3, Aug. 12—Describes the Tide Water Associated Seaboard Cayuga and Long Lake, Texas, plants, and the Anco Gas Corporation's Long Lake, Texas, plant. Part 4, Aug. 19—An interesting development in the adaptation of the absorption method in recycling operations has been the remarkable increases found feasible in absorption pressures. Whereas a short time ago it was not considered

desirable to attempt absorption at pressures greater than 800 to 900 lbs., modern recycling plants are operating at pressures up to 1500 lbs. and tests indicate that absorption pressures in excess of 2000 lbs. are practical. Typical absorption-type recycling plants are presented. Part 5, Aug. 26—Continues and closes the discussion of absorption type distillate plants.

Gas Recycling Plant at Long Lake Shows Good Product Yield—George Weber. *Oil and Gas Journal*, Aug. 29, 1940, p. 59, etc. Hunt Oil Co. recently placed in operation a high-pressure absorption plant and pressure maintenance system in the Long Lake field of East Texas. By means of efficient absorption and reabsorption of the condensate fraction in the high-pressure gas, a good recovery is maintained on gasoline and distillate products. The plant began initial operation June 21, after an 84-day construction period. It is designed to process 55,000,000 cu. ft. of gas daily. Describes the plant and its operation.

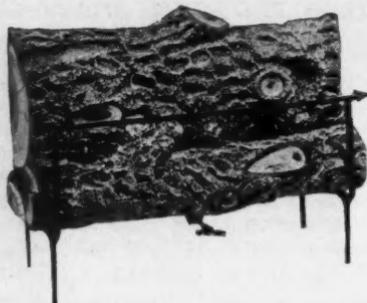
Natural Gasoline Plant Operating Safety. Discussion of Overlooked Factors—G. N. Hile. *California Oil World*, 1st Aug., 1940, p. 19, etc. This article points out hazardous situations that exist in the normal operating plant even after great care has been exercised in design and installation of modern safety devices. It is these little items which so frequently cause the operator trouble and are responsible for serious operating irregularities. It is hoped that the points discussed will serve as an inspiration for additional thought along similar lines and will result in additional consideration of the operator's daily problem.

Phase Equilibria in Hydrocarbon Systems. The Methane-*n*-Butane System in the Two-Phase Region—B. H. Sage, B. L. Hicks and W. N. Lacey, *Industrial and Engineering Chemistry, LPG*, Aug., 1940, pp. 1085-1092. Compositions and specific volumes of the coexisting phases of the methane-*n*-butane system were determined throughout the two-phase region at temperatures above 70°F. From these data equilibrium constants for methane and *n*-butane were computed and have been reported as functions of state. From other unpublished data the fugacities of the components in the coexisting phases were established.

The Effect of Surface on Cool Flames in the Oxidation of Propane—R. A. Day, Jr., and R. N. Pease, *Journal of American Chemical Society*, Aug., 1940, pp. 2234-2237. The cool flame region in 1:1 propane-oxygen mixtures is not materially affected by etching the reaction tube or coating it with potassium chloride. It is thus determined by conditions in the gas phase. Attention is drawn to the region of negative temperature coefficient of the rate as an effective control, leading to successive flames and preventing ignition.

Petroleum Toluol for National Defense—*Chemistry and Metallurgy*, Aug., 1940, pp. 535-537. A review of the literature with the purpose of comparing certain of the petroleum processes for the manufacture of toluol.

Petroleum Refineries Including Cracking Plants, in the United States—January 1, 1940 By G. R. Hopkins and E. W. Cochrane. Bureau of Mines, I. C. 7124.



THE YULE LOG

A.G.A. APPROVED

Introduced last year for the first time the Yule Log was an immediate success.

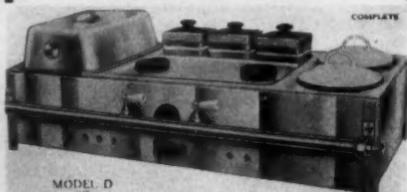
It is odorless, easy to install and the burner has been designed particularly for **Liquefied Petroleum Gases**.

Priced right, it is a money maker. Send for catalog data and discounts.

Strait & Richards, Inc.
23-41 Selvage Street
NEWARK **NEW JERSEY**

Sells on Sight!

MEXIHOT BARBECUE
HAMBURGER MACHINES



MODEL D

Cash in on this popular equipment . . . Sells on sight to drug stores, roadside stands, tap rooms and cafes where you have not been able to sell your gas service before. The Model D above sells for \$38.50. This equipment prepares barbecue by the Permeation method. Prospects waiting to buy . . . write today for distributors' prices.

Department B 5

DICKERSON MANUFACTURING CO.
Springfield, Missouri

Fire Chiefs Study Butane In California Meetings

Lodi, Calif. was host to more than 100 representatives of fire departments in northern California recently when an all-day session of the Fire Prevention Engineers Division of the Northern California Fire Chiefs' Association was held. Captain Theodore Trivett, president of the conference, presided at the meetings held in the city hall.

Some of the speakers at the meeting were: Harold Wilson, fire prevention engineer of the Associated Oil Co., San Francisco; Max B. Afenger, fire prevention engineer of the Standard Oil Co. of Calif.; Thomas Lark, fire prevention engineer, San Francisco; Charles Smith, deputy state fire marshal; Captain Trivett, a member of the San Francisco Bureau of Fire Prevention; David Glines, superintendent of the State's fire training program, and Earl May, chief of the Lodi fire department.

A demonstration was given back of the city hall which showed approved methods of transferring butane and similar domestic gases from storage to service tanks.

This and similar meetings that will be held monthly in different cities in northern California are under the direction of Harold Wilson, fire prevention engineer of the Associated Oil Co., San Francisco.

* * *

Dan Friedman Will Sell LGP Appliances

The Horne Furniture Co., of St. Cloud, Minn., has set aside one-half of its main floor for the display of appliances, among them a line for use with liquefied petroleum gas.

Dan Friedman, who has been handling appliance sales for 12 years, will manage the department.



Are You Sure?

That the Relief Valves in your Storage Tanks will operate in accordance with the law:

When were they last tested?

The Roney Relief Valve Manifold for large Storage Tanks provides full spring-loaded relief area with the ability to retest or repair the relief valves while the tank is in service. Interlocking stem construction permits the closing of only one valve at a time in accordance with Code requirements. Available in 2-, 3- or 4-valve units with 2", 3" and 4" I. P. S. inlets.

L.C. RONEY INC.
1740-44 W. 59th ST. * LOS ANGELES, CALIF.

Bulk Tanks, Truck Tanks, Skid Tanks
and Underground Tanks for Butane
and Propane
Built by . . .

wyatt's

Wyatt Metal & Boiler Works
Houston and Dallas, Texas



AMERICAN LPG TANKS



TOPS for high pressure storage

Regardless of what we buy, the product which gives the most efficient, dependable service, naturally is the most economical. This is particularly true of LPG storage containers. American Butane and Pressure Tanks have an established reputation for rendering safe, efficient, and dependable service over longer periods of time—they're tops! Investigate American before you buy.

AMERICAN PIPE & STEEL CORPORATION
Manufacturers and Distributors
ALHAMBRA CALIFORNIA

Announcing Distributorship

RANSOME

Stoves and Water Heaters
in Southern California



Complete stock
of Pressed Steel
I. C. C. Cylinders
in Los Angeles
for immediate delivery.

BUTANE MILEAGE METERS ARE NOW AVAILABLE

Butane Tank Fittings, Butane, Natural Gas Instruments, Domestic Regulators, Pigtales, Tanks, Gauges, Forged Brass Fittings, Dry-gas Butane Filters.

ELECTRIC AND CARBURETOR ENGINEERING CO.

"Pioneers of the Butane Industry"

2323 E. 8th ST. LOS ANGELES

Good Ad Copy Brings 'Em In

A FIRM which was among the largest gasoline stove distributors in Oklahoma but is now concentrating on butane-propane appliances and equipment because of the conveniences, efficiency and cleanliness of LP gas, is Cermak Bros., Inc., 126 West California Ave., Oklahoma City, of which Joe Cermak is president, and his brother, Albert, vice president.

No Salesmen Sent Out

The company depends almost exclusively on newspaper, radio and circular advertising and satisfied customers, for its business. It sends no salesmen into the rural districts to secure prospects or make sales, but of course sends out qualified employees to adjust, service and install LPG appliances and equipment.

Cermak Bros. is an old, established appliance and furniture retail establishment. It did not add LP gas and equipment to its line until about three years ago and after it had been convinced of the superiority and economy of butane and propane as fuels for people living beyond the natural gas mains.

The firm confines its LPG operations to selling the fuel and selling, installing and servicing household appliances. The average in-

stallations are 222-gal., below-ground tanks, or 100-lb., above-ground bottles. In the summer the company fuels these with butane mixed with a small proportion of propane. In winter the percentage of propane is increased.

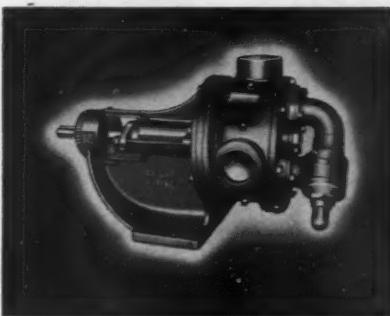
Most of the appliance and equipment selling is done from the floor of the store. Most customers are brought in through advertising or through efforts of people already using the LP gas, according to Paul Bruckner, secretary-treasurer of the company. He estimates that 50% of the sales are advertising-inspired. This consists principally of spot announcements six days per week over an Oklahoma City radio station and a regular program of daily newspaper and circular advertising.

Direct-By-Mail Used

All rural route post office box holders are mailed a circular which describes the advantages of butane gas. Each circular encloses a coupon put out by a range manufacturer offering to give a "practical novelty" to anyone bringing the coupon into the Cermack Bros. store. Each circular carries pictures of appliances, including a butane-propane fueled refrigerator, kitchen range, water heater, space heater, iron and lamp. It also shows a diagram of an underground butane installation, two 25-gal. tanks suitable for cooking and refrigeration, and a pair of 5-gal. tanks hooked up to a small regulator for use in house cars and trailers.

They also advertise their service

VIKING OFFERS EXTRA Features FOR EXTRA Safety!



Each model, in Viking's complete line of Butane-Propane Pumps, is designed with special emphasis on safety . . . EXTRA LONG STUFFING BOX—ADDITIONAL RINGS OF LEAK RESISTANT PACKING—SPECIAL TREATED GASKETS ON HEAD AND FLANGE—VIKING FAMOUS RELIEF VALVE ON HEAD. Bulletin 2301-40 explains in detail each Viking safety feature, gives complete specifications on all Viking Butane-Propane models. Write today for a copy.

VIKING PUMP COMPANY
CEDAR FALLS, IOWA

National Butane Gas Co.

Manufacturers of
Above-Ground and Under-
Ground Butane Storage
Systems and Butane Truck

Tanks

Serving the
Liquefied Petroleum Gas Dealers
Only

PHONE

WRITE

MEMPHIS, TENN.

*For Safety
and Economy*

ETHYL MERCAPTAN

Purified

The ACCEPTED
standard
odorant
for liquefied
petroleum
gases.

**MALLINCKRODT
CHEMICAL WORKS**

ST. LOUIS

NEW YORK

by furnishing (free of cost) 20-lb. LPG cylinders, connected to proper appliances, for community and church picnics in the summer and for indoor church and community gatherings in winter months, said Mr. Bruckner.

Every butane installation is made in accordance with requirements of the National Underwriters Laboratories. The firm has two bonded installation men and maintains prompt and efficient fuel service. Federal housing administration terms can be arranged for as long as 36 months.



King Brothers Inc., Portland Convert Truck for Butane

What King Brothers, Inc., Portland, Ore., believes to be the first mobile conversion made in that district, was recently completed on one of the fleet of the Hyser's Nickle-Plate Line on its regularly scheduled run between Portland and Seattle.

King Brothers furnished the two 50-gal. net propane mobile tanks which were constructed in accordance with the rules and regulations of the A.S.M.E. code, N.B.F.U., and Oregon standard. The tanks were fitted with Bastian-Blessing and L. C. Roney fittings and an American Liquid Gas Corp. conversion unit was used.

The company recently shipped a number of aboveground propane storage tanks into the Puget Sound country where several gas utility companies have purchased I.C.C. cylinders for service beyond their mains. This is done to build up a new territory and when the quantity of users warrant it, the mains are extended and the cylinders are moved into new districts with the operation repeated.

Northwest LPG Dealers Form Association

The rapidly increasing demand for liquefied petroleum gas in the Pacific Northwest for domestic, industrial and automotive purposes and the acquisition of important territorial rights from manufacturers by dealers has finally culminated in a demand for a trade association.

Consequently, on Oct. 5 a group of 25 butane and propane distributors and appliance men of Washington and Oregon met at the Multnomah hotel, Portland, and organized the Northwest Liquid Gas Association. It is planned to incorporate Washington, Oregon, Idaho and possibly Montana in the organization providing dealers in those states would like to become associated with this group.

Officers are Don H. Slocum, the Multnomah Fuel Co., Portland, temporary chairman; and William R. Dominick, Pittsburgh Equitable Meter Co., Seattle, temporary secretary. The only speaker of the meeting was John J. Scrivner, of the office of Oregon's Secretary of State, whose subject was "Tax Laws on Liquefied Gas."

The next meeting of the new association has been set for Nov. 9 at 10 A.M. in the Heathman hotel, Portland. One of the subjects that may be brought up then is an affiliation with the national organization, the Liquefied Petroleum Gas Association.



Spofford Gas Company Reopens After Flood

The Spofford Gas Co., Crowley, La., reopened Oct. 4th for business after having been closed for some time due to a recent flood. The offices have been entirely renovated and redecorated and a complete display of all types of butane appliances is being featured on the floor.



Skellyfuel

***... A Short Name for
Dependable Supply of
Butane and Propane***

No source of butane and propane supply is satisfactory unless it assures your getting *what you want when you want it*. That's why SKELLYFUEL is a good name to remember. When you get your butane and propane—Skellyfuel for short—from Skelly, huge natural gas sources in six states assure *unfailing supply*. And you get *what you want* in Skellyfuel—because trained chemists supervise every operation of its manufacture in the latest type of equipment. Skellyfuel meets your requirements.

Call . . . write . . . wire

SKELLY OIL COMPANY

TULSA, OKLAHOMA

KANSAS CITY, MISSOURI

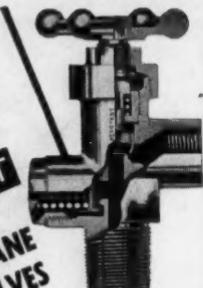
**SAFE!
UNDER ALL
PRESSURES**

KEROTEST

**PROPANE-BUTANE
CYLINDER VALVES**

Propane-Butane Cylinder Valves combine the famous Kerotest Diaphragm Packless design, with an automatic spring relief safety device which releases excess pressures only. Write for descriptive catalog No. 1-LP.

**KEROTEST MANUFACTURING
COMPANY
PITTSBURGH, PA.**



Makes Sales Plan For Buyer's Purse

By L. H. BEALL

Modern Gas Company, Marianna, Fla.

We have been in the liquefied gas business approximately two years and some time prior to our entering this field we began to study existing companies, methods of operation and the localities in which they were operating. After compiling all the information available on both bottled and tank gas we selected the tank method because our primary aim, we decided, was the sale of gas and obtaining the largest consumption per customer.

Our first step was to select a territory, considering the population and the potential business, both domestic and commercial, available. In our analyses of such business we found that approximately 80% of the families within our selected territory earned from \$1000 to \$2000 per annum. Our analyses further show that the greater number of these families had purchased automobiles, furniture and clothing on a budget or deferred payment basis, and in view of these facts it was necessary that we hold our costs of installation of gas to a minimum, and that we have rates that were comparable to other fuels that were marketed in the territory.

From all this, our set-up is such that we are in the gas business on

"HEAT LIKE SUNSHINE"

THE

VITARAY

Line Consisting of

RADIANT, FIREPLACE
INSERTS, WALL INSERTS,
AND CIRCULATING HEATERS

are especially designed for and

A. G. A. APPROVED

on Liquefied Petroleum Gasses

Write for Complete
Literature and Prices.

THE QUAD STOVE MFG. CO.
COLUMBUS, OHIO

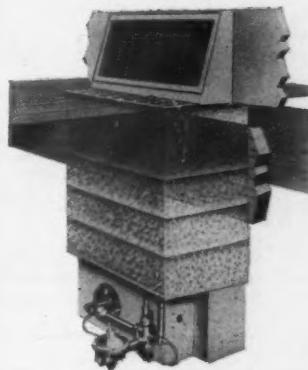
an investment basis considering return per annum on the amount invested and not to sell gas systems and appliances for a big margin of profit. Therefore, we elected to own our systems outright, with no type of payment from the customer for the installation of the gas system, meter, and pipe from system to meter.

Interest Paid on Meter Deposits

Being handled on this basis to obtain gas service, it is only necessary for the customer to make a meter deposit in an amount equal to an average month's gas bill with a minimum of \$10. For such deposit they would receive a company receipt and this deposit would bear 6% interest per annum, credited on their December gas bill when they had been served longer than 6 months. The customer makes a formal application for gas to be installed and agrees to pay for all piping inside the building on a non-profit basis; further, that any water piping connecting water heater installed by the company would be paid for on the same basis. Our gas rates are set up in this application, the penalty for non-payment of bills and the cost for resumption of service if service should be discontinued.

In the states wherein we operate, when anything is installed on property it becomes a part of that property unless permission is secured from the property owner in writing that such items can be removed and that they remain the property of the person or company making such installation. We

NEW and Better!



PACIFIC Floor Furnaces for '41

are better than ever . . . further improved . . . superior performance . . . finer value! Quieter operation, greater structural strength and new interchangeable manual and safety controls are features.

There's big business to be had with these new "Pacific" Pipeless Floor Furnaces for L.P.G.! Write today for complete information.

PACIFIC GAS RADIATOR CO.

Main Office and Factory
Huntington Park, Calif.



Notice

BUTANE DEALERS

You may participate in the profit from jobs similar to these that we have installed.

U. S. Navy:—Central Plant, San Clemente Island

U. S. Migratory Service:—Central Plant, Sommerton, Ariz.

Hatch, New Mexico:—Municipal Gas Plant

Consolidated Aircraft Corporation:—

Stand-by

City of Los Angeles—Truck Service Station

You may call on us to engineer or install any Central Plant, Stand-by or Service Station dispensing system FOR YOU, or we will ENGINEER, INSTALL, and BID the job direct, paying you a profit, plus the future gas load.

BUTANE LTD.

Consulting & Manufacturing Engineers
2146 W. Washington Blvd., Los Angeles
ROchester 9118

secure such permission from each property owner and this permission also gives us the right to cross property lines.

By handling the installation of gas as set out above we are able to obtain in some cases many customers on one gas system rather than using an individual system for each customer, because, after all, our primary interest is in the amount of gas passed through the meter, and the amount of gas placed in the system is only a secondary matter. Further, by holding the amount of money involved for the installation of gas to a minimum, we are in a position to sell our customers a greater number as well as a better grade of appliances which is mutually beneficial.

Consumers Used to Meters

In deciding to sell our gas on a meter basis, we considered the psychology as well as the accuracy obtained by the use of meters. People naturally expect gas to be metered rather than sold on any other basis because throughout our nation and the world the natural and manufactured gas companies have always used a meter system for the measure and sale of gas. And second, we decided on a decitherm meter rather than a cubic foot one because on one side of our territory natural gas is sold and on the other side manufactured gas. And quite often people get together and compare bills and even though the dollars and cents might be the same amount, the number of cubic feet of one gas against another would show a

Peerless Wall Heaters

Today Buyers everywhere are demanding Peerless Gas-Fired Wall Type Bathroom Heaters.



No. 7612

They are nationally accepted!
1939 Sales more than 30 times 1934.
White or colored enamel finishes.

Write for complete catalogue and prices.

PEERLESS MANUFACTURING CORP.
LOUISVILLE, KENTUCKY

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New!

great difference, and because the customer does not know the difference in heat content per cubic foot it would be confusing.

Eliminates "Bootlegging"

By using a decitherm meter we are teaching our people a medium of measure that they are unable to compare with a gallon basis or with any other medium of measure, and by this and owning our own systems we eliminate as near as possible the possibility of bootlegging, as known to the trade. After all, the interest of the customer is only in the amount of dollars and cents per month for service rendered.

Our next step was to organize and train a service crew to handle installation and service complaints after appliances were installed, and remembering the fact that we were primarily after the sale of gas, we began searching for a man to head this department and train these men. Through friends of ours who had spent a lifetime in the gas industry we were able to locate a man who had retired from big corporation endeavors, W. O. "Jerry" Weekes. His attitude is "the customer is always right, and the burden of proof rests on the company." By this we mean that when any customer claims that their appliances are not working satisfactorily the company must first see that these appliances are in perfect mechanical condition and then prove to the customer that they are in such condition. To carry this further, we maintain a home service department to teach our cus-



E POWER

X ECONOMY

T SERVICE

R PROFITS

A SATISFACTION

When there's a man-sized job to be done, you don't hire a midget! Rugged work demands rugged POWER.

That's why truck owners everywhere are turning to ALGAS Butane Carburetion.

They like ALGAS' EXTRA performance—that extra "give" all along the line that means BIGGER PROFITS!

ALGAS means tremendous savings in engine maintenance, fuel and oil costs. It costs little to convert a truck to butane with ALGAS Carburetion.

However exacting your job, ALGAS can do it more efficiently and cheaply!

Write for literature today

AMERICAN LIQUID GAS CORP.
1109 Santa Fe Avenue
Los Angeles, Calif.

AUTHORIZED DEALERS NOW BEING
SELECTED IN MANY LOCALITIES



STABILIZED

BUTANE

We make wholesale deliveries by Transport, Tank Car or from one of our Bulk Plants.

Exclusive Distributors

SMITH STEEL TANK CO.
Manufacturers of A.S.M.E. code tanks

For further details write or wire

R. J. ALLISON CO.
P. O. Box 23
TULSA, OKLA.

ROBERTSHAW MANUALS

will help increase your sales



FOR DOMESTIC SALESMEN

"More Income from Gas Ranges"

How can your salesmen sell more gas ranges? This manual shows simply, graphically, convincingly. Thousands of salesmen have greeted it with enthusiasm, are putting it to effective use.

FOR COMMERCIAL SALESMEN

"Hidden Losses in Your Kitchen and How to Stop Them"

The latest developments in commercial gas cooking equipment are brought together in this manual, now used by many bottled gas dealers.

Write for free copies



ROBERTSHAW THERMOSTAT COMPANY

YOUNGWOOD, PA.

tomers the proper use of their appliances so that they may obtain the most service for their money.

Our third step was to determine upon a complete line of gas appliances and to be sure that these appliances were selected with consideration only for quality in construction and perfection in performance on our type of gas. Mr. Weekes found that practically all appliances manufacturers were most willing to cooperate and make certain minor changes as they found necessary after thorough tests had been made. Because of our selection of appliances and the thoroughness of our service department we find that it takes less than one-fourth of one man's time to care for all the complaints that are registered in our office the same day they are made.

Salesmen Have Service Experience

Then came the obtaining and training of salesmen. We believed and have found it true that to sell properly, a salesman must have most of the knowledge of a serviceman as well as that of a salesman. For this reason each man in our sales department has had sufficient training in the service department to be capable of servicing any ordinary complaint on all types of equipment. Without a doubt, "knowledge is power," and inasmuch as we do not permit the high pressure type selling it is necessary for our salesmen to have as nearly as possible complete knowledge of the appliances that they offer for sale.

Each week we hold one or more

meetings of all departments, particularly sales and service, and discuss in detail all problems that exist throughout our territory. At this time we take up each complaint that has been filed since our last meeting and familiarize ourselves anew with the troubles that we are having. We find that in so doing we keep every man in every department on his toes and that he does his job correctly so that he will not be mentioned before his fellowmen in open session.

After these two years of operation with the set-up mentioned we are unable to find any part that we would like to change. Our growth, while it has not been as rapid as that of some other companies, has been fast enough, and we are sure that it is stable. Our customers are pleased enough, for they are telling other people about our service in such numbers that we have discontinued all forms of advertising except stuffers in our bills.



Eagle River, Wis., Gas Agency Changes Hands

P. J. Gaffney has taken over the distribution of liquefied petroleum gas in Eagle River, Wis., that was formerly handled by Robert H. Roberts.

Mr. Roberts has been selling bottled gas for the past 14 years.

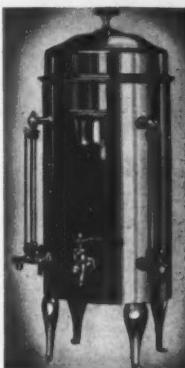


Butane Firm Establishes In Columbus, Miss.

The Roxanna Butane Gas Co. recently opened offices on the second floor of the Princess Theatre building on South Market Street in Columbus, Miss. W. B. Walker is manager of the company.

BOOST LPG SALES WITH *Blickman* HEAVY-DUTY FOOD SERVICE EQUIPMENT

. . . designed especially for use with Butane-Propane



* Dealers everywhere are enthusiastic at the interest restaurants and commercial cooking establishments are showing in this line of superlatively-built equipment. Send the coupon below for further information.

Left: Coffee Urn
Below: Steam Table



S. BLICKMAN, INC.

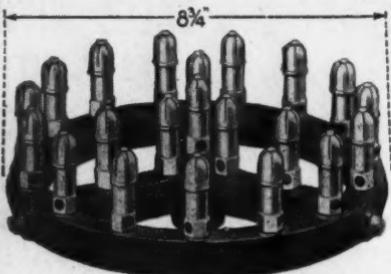
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3704 Superior Ave. Cleveland, Ohio

CROWN GAS RANGES for LIQUEFIED GASES

FALL FACTORY GAS RANGE SPECIAL
Priced Low Due to Volume Production
A Real Sales Builder Write For Details

CROWN STOVE WORKS
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Originators of BUFFET and DIVIDED-TOP GAS RANGES

Salaried Salesmen Believed Best Bet

"**R**ETAIL LPG dealers and distributors must get out in the field and actually sell their own service, appliances and equipment," observed W. L. Elkin, co-owner with C. G. Berry, of Butane Consolidated, Oklahoma City, Okla. when commenting on the experiences of his firm at the end of its first year in business on Sept. 14.

Both partners had spent about 12 years each in the field as appliance and LPG salesmen when they decided to go into business for themselves in Oklahoma City.

"Of course we have discovered that there are headaches in this business but, within the year, we have averaged a new installation every other day, including many government and school services," Mr. Elkin said. "We have accomplished this by working hard ourselves at actual selling and paying close attention to giving satisfactory service. Our satisfied customers provide the names of most of our prospects."

Increased sales have been registered since the firm discontinued a policy of paying its sales force on a commission basis and employed a single salesman who is paid a salary, furnished a company-owned car and reimbursed for his expenses while on the road, Mr. Elkin reported. Further, "Experience of the past year has

taught us," he said, "that good, reliable salesmen do better work for us when paid a salary, rather than merely expenses and commissions. We formerly had as high as eight salesmen working on a commission basis but we were not satisfied with results. When we discontinued these commission salesmen and employed one of the



W. L. Elkin, standing beside a service truck, with installation truck loaded with crated home service tank in background of the picture.

best among them on a salary basis we accomplished an immediate improvement. During the first two weeks of this salesman's services on a salary basis he turned in business which more than paid his salary and expenses for a month."

Mr. Elkin believes from his own experience that a salaried salesman will be less afraid that he will not make an immediate sale but will be more certain to make the sale in the long run and acquire a satisfied customer for his firm. He

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The 4 - Star Line

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- ★ EYE APPEAL
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Largest selling heater of this type. Last word in porcelain enamel beauty and heating efficiency. 1-piece body. Cast iron burner distributes even flame; equipped with adjustable air mixer. Reversible connection, left or right side. White with black lines or green and ivory. 11" wide, 14 $\frac{1}{2}$ " high, 5 $\frac{1}{2}$ " deep.



790 Radiant Heater

A popular seller. Body finished in brown vitreous enamel with heavy chrome hearth, front panel, dress guards and tubular legs. Glazed backwall is light tan shaded with brown. Light faced radiants harmonize with body. 2 sizes, 20,000 and 24,000 B.T.U. A.G.A. approval.



11 DIFFERENT STYLES

In the complete Armstrong line, there are 11 styles especially designed for liquefied petroleum gases—every one a big value—sized from 12,000 to 30,000 B.T.U. Finishes harmonize with any home or office surroundings.

PLAN NOW

for this profitable fall and winter business. Send for illustrated literature and attractive dealer discounts. Address Dept. BP.

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SHIPPED RAPIDLY FROM OUR
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15 to 95 Gallon Capacities

100% SAFE

Equipped with Grayson Unitrol

EFFICIENCY

Designed and tested for long life and economy

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Houston, Texas Newark, N. J.
Los Angeles, Calif.

will not be so much tempted to cut prices and will feel more like a member of his firm, will work harder, accomplish more and be better satisfied if he does not have to worry about his personal finances and can figure on a regular income, Mr. Elkin contends. Of course, he bases this conclusion on a comparison of salary and commission-paid salesmen of equal character and ability.

Butane Consolidated depends largely on satisfied customers for prospects, Mr. Elkin stated.

* * *

Work Is Well Under Way For Long Beach Standby

Grading and other preliminary work for the new butane standby plant at Long Beach, Calif., has been completed and construction of the plant itself is well under way. The Oldfield Construction Co., contractors, has been working against time, for the plant must be entirely complete by next Dec. 15.

The new plant is to occupy about two acres, and is built around a battery of 22 horizontal pressure tanks, each one 76 inches in diameter and 105 feet in length, all to be built on foundation, "level and plumb in concrete saddle."

This plant is to produce up to 500,000 cu. ft. per hour of mixture of liquefied petroleum gas vapors and air, having a specific gravity such that the mixture will readily combine with, or substitute for, 1080 B.t.u. natural gas which is to be delivered into the city distributing system. Plans include compressors, and all to be housed in.

Harold W. Wickstrom, Los Angeles, prepared the plans and is acting as consulting engineer.

Ropesville, Texas, Will Have Butane Town Plant

McCaskil and Son, of Levelland, Texas, was recently granted a franchise by the city of Ropesville, Texas, for the installation of a butane gas system and a water system for the city.

Work has been started on these two systems and, according to Mr. McCaskil, the gas will be piped to every locality within the city limits and the only cost to the city is the ground on which the well, standpipe, and butane tank will be placed.

Both systems are scheduled for completion before winter and the residents of the town believe that the installation of the systems will increase property valuations at least 50% as well as aid materially in bringing new residents to the town.



Smith Precision Products Co. Appoints Eastern Distributor

R. Stanley Smith, president of the Smith Precision Products Co., South Pasadena, Calif., recently announced that the Eastern offices of the Smith Meter Co. are now distributing the Smith butane-propane pump to Eastern trade.

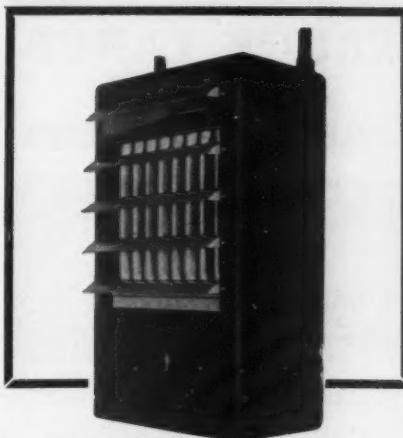
Also, that the Tokheim Oil Tank and Pump Co., Fort Wayne, Ind., has adopted the Smith butane-propane pump as standard equipment on their new butane and propane dispensing units.



C. G. Jones Buys Gas Store

Scott's Butane Gas store, located at 23 College street, Iowa City, Ia., has been purchased by C. G. Jones, according to a recent announcement.

Mr. Jones will operate under the name of Iowa City Butane Gas store.



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2. Quietness—overlapping blade fan and streamlined heat exchanger tubes eliminate objectionable air flow noises, without sacrificing volume of air delivery.

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SPRAGUE METER COMPANY

Bridgeport, Conn.
Los Angeles, Calif.
San Francisco, Calif.

Husbands Get Chance To Attend Cooking School

Leo Gross, dealer at Spencer, Iowa, for the Iowa Automatic Gas Co., recently opened his new quarters at Grand avenue and Fourth street by staging a free two-day cooking school.

Associated with Mr. Gross in sponsoring the demonstrations was The Automatic Gas Co., who sent Miss Marie Butler, midwestern home economist of Cedar Rapids, to conduct the school.

Miss Butler used gas furnished by the company and demonstrated real "picture book" baking and broiling with bottled gas ranges, according to news reports.

The first day the demonstration started at 2:30 p. m., and the second day was held in the evening beginning at 8 o'clock to enable women to take their husbands.



M. A. Disney Joins LPG Firm in Wichita, Kan.

M. A. Disney, formerly president of the Disney-Leffel Co., Inc., Kansas City, Mo., which closed out its business last June, has become associated with the J. M. O'Connor Co. in Wichita, Kan. He occupies the position of sales engineer.

The J. M. O'Connor Co., has a franchise from the Bryant Heater Co. for the sale of its heater in Wichita.



Irvin McHatton Has Sales Lead on 62 Dealers

Irvin McHatton, of Akron, Ohio, dealer in liquefied petroleum gas, was high man among 62 other Philgas dealers in his district for the first eight months of 1940 in a percentage of sales gains.

This fact was brought out at the September Philgas dealer meeting in Monticello, Ohio.

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Safety Systems
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COMPLETE SALES HELPS . . .

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